

# The 30th Biennial Congress of **ISUCRS 2020** PROGRAM BOOK

International Society of University of Colon and Rectal Surgeons  
with **The 75th Annual Meeting of JSCP**  
Japan Society of Coloproctology

***Now for the Future***

**11<sup>th</sup>-14<sup>th</sup> November, 2020**  
PACIFICO YOKOHAMA NORTH, Japan  
<http://www2.convention.co.jp/isucrs2020>

ISUCRS President:

**Ho-Kyung Chun** (Department of Surgery, Sungkyunkwan University, Korea)

Congress President:

**Kotaro Maeda** (Fujita Health University Hospital International Medical Center, Japan)

Congress Vice-President:

**Nobuyoshi Miyajima** (St. Marianna University School of Medicine Toyoko Hospital, Japan)

**Keiji Koda** (Department of Surgery, Teikyo University Chiba Medical Center, Japan)

Congress Secretariat

Department of Surgery, Fujita Health University

1-98 Dengakugakubo, Kutsukake-cho, Toyoake, Aichi 470-1192, Japan

Management Office

Japan Convention Services, Inc.

Keihanshin Yodoyabashi Bldg. 2F, 4-4-7 Imabashi, Chuo-ku, Osaka-shi, Osaka 541-0042, Japan  
Tel: +81-6-6221-5933 Fax: +81-6-6221-5938 E-mail: [isucrs2020@convention.co.jp](mailto:isucrs2020@convention.co.jp)





**We strive to improve human health  
and contribute to a society  
enriched by smiles**



TAIHO PHARMACEUTICAL CO., LTD.

<https://www.taiho.co.jp/english/>

**WELCOME  
TO THE  
INTERNATIONAL SOCIETY OF UNIVERSITY  
COLON AND RECTAL SURGEONS**

**\*\*\***

**BIENNIAL MEETING 2020**

**\*\*\***

**Yokohama, Japan**

**- Online Congress -**

Greeting	4
ISUCRS	
– About us	5
– Executive Board	6
– Membership	7
Invitation to the 30th Biennial Congress of ISUCRS in Yokohama, Japan	8
Registration	9
Chair & Speaker	10
Overview of the Program	11
Wednesday, 11th November	15
Thursday, 12th November	16-22
Friday, 13th November	23-28
Saturday, 14th November	29
Digital Poster Session	30-33
Abstracts – Presidential Lecture	34
Abstracts – Oration	34-35
Abstracts – Award	36-38
Abstracts – Joint Symposium	39-68
Abstracts – Symposium	69-134
Abstracts – How I do it	135-145

Abstracts – Oral

146-233

Abstracts – Poster

234-303

## Welcome Message

ISUCRS President



**Ho-Kyung Chun, M.D., Ph.D.**  
(Department of Surgery, Sungkyunkwan University, Korea)

Dear ISUCRS Colleagues,

On behalf of the International Society of University Colon and Rectal Surgeons (ISUCRS), it is my great honor and pleasure to invite you to the Biennial Congress of ISUCRS 2020 with the 75th Annual Meeting of Japan Society of Coloproctology (JSCP), which will be held at Pacifico Yokohama North, Japan from November 11 to 14, 2020.

The purpose of ISUCRS, which founded 1962 in Mexico City, is to contribute to the progress of Colon and Anorectal Surgery, and to hold congresses and meetings throughout the world in order to interchange scientific knowledge.

Even though this congress will be held on line due to COVID 19 pandemic, I am confident that this congress will be a beneficial and unforgettable experience for all participants.

I would like to express special thanks to Professor Maeda and the organizing committee for successfully preparing this congress under COVID 19 pandemic.

Thank you all in advance for your interest and cooperation.

See you on line!!!

## Greetings to the 30th Biennial Congress of ISUCRS 2020

Congress President of the 30th Biennial Congress of ISUCRS 2020, Yokohama



**Kotaro Maeda, M.D., Ph.D.**  
(Professor of International Medical Center, Fujita Health University Hospital, Japan)

We would like to express our sincere regret to the people who are stricken and suffering by COVID 19. It is our great pity to abandon on-site Congress and have ISUCRS 2020 on webinar due to the pandemics. Anyway, it is our great pleasure and honor to welcome you all to the 30th Biennial Congress of the International Society of University of Colon and Rectal Surgeons (ISUCRS) 2020 in Yokohama, Japan.

The 30th ISUCRS Congress will be held together with the 75th Annual Congress of the Japan Society of Coloproctology (JSCP, Congress President Prof. Nobutoshi Miyajima) from November 11 to 14, 2020, at Pacifico Yokohama North on webinar as well.

I would like to express my sincere gratitude to board members and all the participants to the congress for supporting the congress. All Japanese colorectal professors and JSCP members prepared for this meeting as a team. A total 274 papers from 25 countries will be reported and discussed at the meeting. We await your presence at ISUCRS 2020 on live web. I do hope your hot discussion. Welcome to ISUCRS 2020 Yokohama.

## About Us

The International Society of University Colon and Rectal Surgeon Founded in November 1962 by Drs. Harry Bacon, Stuart Ross, and Fidel Ruiz-Moreno, proposed that members of the Society would contribute to the field of Colon and Anorectal Surgery by holding international meetings in order to share their scientific knowledge.

- Has been an international society since its inception and continues to be represented in 80 countries.
- Bestows prestigious honour to members of the Society consisting of a worldwide network of colon and rectal surgeons and professors with an academic interest, and general surgeons with an emphasis on colon and rectal surgery who are affiliated with a university.
- Is cognizant of the varying income levels around the world and wants all members to have the opportunity to attend our meetings by keeping registration fees low.
- Now offers free access to the World Journal of Colorectal Surgery, the ISUCRS official on-line, open access journal to all Society members.
- Welcomes any member of the society to host a future meeting site by completing an application form.

## ISUCRS Past Congress History

Year	City	President	Congress Convenor
1962	Mexico	Dr. Bacon	Dr. Ruiz-Moreno
1964	Philadelphia	Dr. Bacon	Dr. Bacon
1966	Tokyo	Dr. Bacon	Dr. Kodaira
1968	Rome	Dr. Bacon	Dr. Stefanini
1970	Sao Paulo	Dr. Yodice	Dr. Cutait
1972	Rhodes	Dr. Stefanini	Dr. Georgiadis
1974	New Orleans	Dr. Georgiadis	Dr. Hanley
1976	Salzburg	Dr. Zavaleta	Dr. Zangl
1978	Kyoto	Dr. Zangl	Dr. Jinnai
1980	Melbourne	Dr. Ruiz-Moreno	Dr. Ryan
1982	Munich	Dr. Jinnai	Dr. Gall
1984	Strasbourg	Dr. Hanley	Dr. Hollender
1986	Dallas	Dr. Cutait	Dr. Carter
1988	Glasgow	Dr. Ryan	Dr. Crum
1990	Graz	Dr. Gall	Dr. Kronberger
1992	Malmo	Dr. Ekelund	Dr. Mavrantonis
1994	Singapore	Dr. Ray	Dr. Goh
1996	Lisbon	Dr. Yosutomi	Dr. DeAlmeida
1998	Malmo	Dr. Moreira	Dr. Ekelund
2000	Sao Paulo	Dr. Kronberger	Dr. Reis Neto
2002	Osaka	Dr. Morgado	Dr. Shindo
2004	Budapest	Dr. Muto	Dr. Balogh
2006	Istanbul	Dr. Shafik	Dr. Alemdaroglu
2008	San Diego	Dr. Beart	Dr. Prager
2010	Seoul	Dr. Habr-Gama	Dr. Chun
2012	Bologna	Dr. Park	Dr. Cola
2014	Cape Town	Dr. Fidel Ruiz-Healy	Dr. Paul Goldberg
2016	Mumbai	Dr. Khubchandani	Dr. Niranjana Agarwal
2018	London	Dr. Phil F Caushaj	Dr. Joseph Nunoo-Mensah
2020	Yokohama	Dr. Ho-Kyung Chun	Dr. Kotaro Maeda

Executive Board	
<b>President</b>	Ho-Kyung Chun, MD (Korea)
<b>President Elect</b>	Narimantas Samalavicius, MD (Lithuania)
<b>Past President</b>	Philip Caushaj, MD (USA)
<b>Director General</b>	Joseph Nunoo-Mensah, MD (UK)
<b>Associate Director General</b>	Keiji Koda, MD (Japan)
<b>Vice President</b>	Kotaro Maeda, MD (Japan)
<b>Secretary General</b>	Woo Yong Lee, MD (Korea)
<b>Associate Secretary General</b>	Khaled Madbouly, MD (Egypt)
<b>Secretary of Treasury</b>	Richard Fortunato, MD (USA)
<b>Associate Treasurer</b>	Ricardo Escalante, MD (Venezuela)
<b>Director of Int'l Advisory Committee</b>	Feza Remzi, MD (USA)
<b>Associate Director of Int'l Advisory Committee</b>	Francisco Abarca Aguilar, MD (Ecuador)
<b>Counselor to the President</b>	Arun Rojanasakul, Thailand
<b>Chair of the Council of Past Presidents</b>	Jae-Gahb Park (Korea)
<b>Members at Large</b>	Suk-Hwan Lee (Korea)
<b>Members at Large</b>	Dursun Bugra (Turkey)
<b>Members at Large</b>	Audrius Dulskas (Lithuania)
<b>Members at Large</b>	Pascal Gervaz (Switzerland)
<b>Member at Large</b>	Igor Pravosudov, MD (Russia)
<b>Member at Large</b>	Marc Brozovich, MD (USA)
<b>Member at Large</b>	Niranjan Agarwal, MD (India)
<b>Member at Large</b>	Chuan-Gang Fu, MD (China)



Ho-Kyung Chun  
President  
Korea



Kotaro Maeda  
Vice President  
Japan



Narimantas Samalavicius  
President Elect  
Lithuania



Philip F. Caushaj  
Past President 2016-18  
USA



Joseph Nunoo-Mensah  
Director General  
UK



Woo Yong Lee  
Secretary General  
Korea



Richard Fortunato  
Treasury  
USA



Arun Rojanasakul  
Counselor to the President  
Thailand



Jae-Gahb Park  
Chair of the Council of  
Past Presidents  
Korea



Feza Remzi  
Director of Int'l  
Advisory Committee  
USA

ISUCRS 2020	
<b>Congress President</b>	Kotaro Maeda
<b>Congress Vice President</b>	Nobuyoshi Miyajima
	Keiji Koda



Kotaro Maeda



Nobuyoshi Miyajima



Keiji Koda

## Membership

As a member of ISUCRS you join an active network of coloproctology professionals and can take advantage of numerous benefits.

### Benefits of Becoming A Member of ISUCRS

- Networking with world renowned colon and rectal colleagues from over 80 countries with a society founded since 1962.
- Free access to the World Journal of Colon and Rectal Surgery, ISUCRS' official on-line, open access journal. The unique format allows rapid publication of articles of any length, with colour pictures and even video clips. The journal will enable members to keep abreast of all pertinent topics with a just a click of a button.
- Obtain member-only access to a new enhanced ISUCRS website with free educational information e.g. lecture slides, practice guidelines, live streaming videos (coming in 2017)
- Reduced registration fees for ISUCRS' biennial congress.
- Have an opportunity to be regional vice president and participate on the ISUCRS executive board and/or participate in a number of ISUCRS committees.
- Have an opportunity to host ISUCRS's Biennial Congress in his/her country by completing an application form
- Organize an educational event in association with ISUCRS. ISUCRS will be willing to advise on how to make for a successful event, advertise your meeting on its website and an emailed advert campaign.
- Receive quarterly newsletter with updates about the society and colon and rectal surgery activities.
- Obtain a membership certificate
- Have your contact details on ISUCRS's website including private practice details/website.

# Invitation to the 30th Biennial Congress of ISUCRS in Yokohama, Japan

ISUCRS will be hosting the 30th Biennial Congress of ISUCRS in Yokohama, Japan from Nov. 11th – 14th, 2020. This promises to be an outstanding scientific gathering of colorectal surgeons from all over the world. The meeting will be held as a Online live webcast congress.

## Highlights of the meeting include:

### Presidential Lecture

Prof. Ho-Kyung Chun



### Oration

Oration1

Harry Bacon Oration - Prof. Francis Seow-Choen



Oration2

Tetsuichiro Muto Oration - Prof. Fumio Konishi



### Award

Award 1

Angelita Habr-Gamma Pioneer in Colorectal Surgery Award - Prof. Kumkum Singh



Award 2

The Fumio Konishi Excellence in Clinical or Research Award - Prof. Ronan O'Connell



Award 3

The Jae Gab Park for Outstanding Contribution to Colon and Rectal Surgery Award  
- Dr. Seong Taek Oh



Yours sincerely,

A handwritten signature in black ink, appearing to read 'H.K. Chun'.

Ho-Kyung Chun

President, International Society of University Colon and Rectal Surgeons

A handwritten signature in black ink, appearing to read 'Kotaro Maeda'.

Kotaro Maeda

Congress President of the 30th Biennial Congress of ISUCRS 2020

# Registration

The COVID-19 pandemic and our concern about the health, safety, and well-being of attendees, 30th ISUCRS Biennial 2020 Congress as a Virtual Meeting.

Registration to the meeting will be free for ISUCRS member to participate.

JPY basis / Year 2020

	Registration fee
Non - Member	20,000
Trainees / Nurse	15,000
Medical Students	10,000

## Regular Registration fee includes

- Admission to the 30th Biennial Congress of ISUCRS 2020
- Admission to The 75th Annual Meeting of Japan Society of Coloproctology
- Admission to Luncheon seminar (November 12,13)

## FOR PRESENTERS

A brief meeting with chairs and presenters by Zoom before 30 minutes before live streaming. Please be ready to start before.

Please stick to your allocated time to allow time for debate/ discussion and a timely programme.

- **Award**

15-minutes presentation and ceremony

- **Oration**

25-minutes presentation and ceremony

- **Symposium**

10-minutes presentation each + 30-minutes discussion at the end of the session

- **Oral Session, How I do it Session**

7-minutes presentation each + 3-minutes discussion each

- **Poster**

Poster presentation will be replaced to Online Digital Poster and will not have a debate. Creation of PPT slide. The maximum number of slides are 15 and make the file size 50 MB or less.

-----

### <For the symposiast>

Creation of 10-minutes PPT slide with voice and your picture and uploading on the streaming box. On the day, it will be streaming your uploading presentation slide by turn. 30-minutes Live discussion after all speakers have done presently.

### <For the oral presenter>

Creation of 7-minutes PPT slide with voice and your picture and uploading. It will be streaming your uploading presentation slide. After each presentation, there is 3-minute Live discussion time. In some cases, there is a possibility of taking questions from the audience via the chat function. The other speakers in the session are welcome to join in this live questioning.

-----

### Conflict of Interest and Disclosure

Concerning conflict of interest (hereinafter "COI"), all presenters are required to self-disclose any COI status and must describe the related commercial entities, foundation organizations, and any other groups related to the clinical research which aim to derive profit within the preceding year.

# Overview of the Program

<b>Day1 Wednesday, 11<sup>th</sup> November</b>	
<b>Time</b>	<b>Streaming Room 1</b>
8:00	
9:00	
10:00	
11:00	
12:00	
13:00	
13:00-13:30	<b>Opening Ceremony</b>
13:30-14:00	<b>Oration 1</b> Harry Bacon Oration
14:00-15:30	<b>Symposium 1</b> TaTME is beneficial for rectal cancer surgery?
15:00	
16:00	
15:45-16:05	<b>Presidential Lecture</b>
16:05-17:35	<b>Symposium 2</b> Treatment of IBD How and When
17:00	
18:00	

# Overview of the Program

Day2 Thursday, 12 <sup>th</sup> November			
Time	Streaming Room 1	Streaming Room 2	Streaming Room 3
8:00			
9:00	8:30-10:00 <b>Symposium 3</b> Strategy for treatment of locally advanced and recurrent rectal cancer	8:30-10:00 <b>Symposium 7</b> Present situation and future in the management of anorectal dysfunction	8:20-9:20 <b>Oral 01</b> Metastasis&Recurrence
10:00	10:00-10:20 <b>Award 1</b> Angelita Habr-Gamma Pioneer in Colorectal Surgery Award		9:20-10:20 <b>Oral 02</b> Rectal Cancer 1
11:00	10:35-12:05 <b>Symposium 4</b> Postoperative dysfunction after rectal cancer surgery	10:35-12:05 <b>Symposium 8</b> Technique and outcomes in proctology	10:20-11:20 <b>Oral 03</b> Rectal Cancer 2
12:00			11:20-12:00 <b>Oral 04</b> Polyposis&Cancer
13:00	12:20-13:20 <b>Luncheon Seminar 1</b> Fecal Incontinence Therapy and the Role of Kampo Medicine Sponsor: TSUMURA & CO	12:20-13:20 <b>Luncheon Seminar 2</b> Treatment strategy for advanced rectal cancer Sponsor: Chugai Pharmaceutical Co., Ltd.	
14:00	13:30-13:50 <b>Award 2</b> The Fumio Konishi Excellence in Clinical or Research Award		13:30-14:30 <b>Oral 05</b> Rectal Cancer 3
15:00	13:50-15:20 <b>Symposium 5</b> Robotic surgery - present and future	13:50-15:20 <b>Symposium 9</b> Stoma complications- how we manage and prevent?	14:30-15:30 <b>How I do it 1</b>
16:00	15:20-15:40 <b>Award 3</b> The Jae Gahb Park for outstanding contribution to Colon and Rectal Surgery		15:30-16:30 <b>How I do it 2</b>
17:00	15:55-17:25 <b>Symposium 6</b> Surgical treatment of rectal prolapse	15:55-17:25 <b>Symposium 10</b> Renal dysfunction after ileostomy –Present status and how we manage	16:30-17:30 <b>Oral 06</b> Benign Disease
18:00	17:30-18:00 <b>General Assembly</b>	17:30-18:30 <b>Oral 08</b> Malignant Disease 2	17:30-18:30 <b>Oral 07</b> Malignant Disease 1

# Overview of the Program

Day3 Friday, 13 <sup>th</sup> November			
Time	Streaming Room 1	Streaming Room 2	Streaming Room 3
8:00			
8:30-10:00	<b>Joint Symposium 1</b> Watch and wait –present and future	<b>Symposium 11</b> NOSES-present and future-	8:20-9:00 <b>Oral 09</b> Other Malignant
9:00			9:00-10:00 <b>Oral 10</b> Colon Cancer 1
10:00			10:00-10:50 <b>Oral 11</b> Colon Cancer 2
10:15-10:45	<b>Oration 2</b> Tetsuichiro Muto Oration	10:10-10:50 <b>Oral 16</b> Benign Condition	
10:45-12:15	<b>Joint Symposium 2</b> Challenges to reduce anastomotic leakage after colorectal surgery	10:50-11:30 <b>Oral 17</b> IBD 1	10:50-11:50 <b>Oral 12</b> Early Cancer
11:00		11:30-12:00 <b>Oral 18</b> IBD 2	
12:00			11:50-12:20 <b>Oral 13</b> Stoma
13:00		12:30-13:30 <b>Luncheon Seminar 3</b> Current Situations of Management of Chronic Constipation in Japan - Based on Japanese Guideline for Management of Chronic Constipation 2017 - Sponsor: Astellas Pharma Inc.	
13:40-15:10	<b>Joint Symposium 3</b> Lateral node dissection for rectal cancer in the era of neoadjuvant therapy	13:40-15:10 <b>Dilemmas &amp; Debates</b> In Colorectal Surgery (DDCRS) Session	13:40-14:30 <b>Oral 14</b> Incontinence
14:00			14:30-15:10 <b>Oral 15</b> Anal Disease
15:00	15:10-15:25 <b>Closing Ceremony</b>		
16:00			
17:00			
18:00			

# Overview of the Program

Post Congress Saturday 14 <sup>th</sup> November	
Time	Streaming Room 1
8:00	
8:30-10:00	<b>Joint Symposium 4</b> Strategy of diverticular disease of the colon
9:00	
10:00	
10:15-11:45	<b>Joint Symposium 5</b> Artificial intelligence in colorectal field
11:00	
12:00	

## Digital Poster Session

<b>Poster 01</b>	Colon Cancer 1
<b>Poster 02</b>	Colon Cancer 2
<b>Poster 03</b>	Rectal Cancer 1
<b>Poster 04</b>	Rectal Cancer 2
<b>Poster 05</b>	Advanced Cancer 1
<b>Poster 06</b>	Advanced Cancer 2
<b>Poster 07</b>	Advanced Cancer 3
<b>Poster 08</b>	Early cancer, Benign tumor
<b>Poster 09</b>	Malignant tumor 1
<b>Poster 10</b>	Malignant tumor 2
<b>Poster 11</b>	POP
<b>Poster 12</b>	Benign Disease
<b>Poster 13</b>	Anal dysfunction
<b>Poster 14</b>	IBD
<b>Poster 15</b>	Others
<b>Poster 16</b>	Western Poster

## Streaming Room 1

13:00-13:30	<b>Opening ceremony</b>
	<ul style="list-style-type: none"> <li>• <b>Opening Remark</b> - Ho-Kyung Chun (President of ISUCRS, Korea)</li> <li>• <b>Greeting</b> - Kotaro Maeda (Congress President of ISUCRS 2020, Japan)</li> <li>• <b>Greeting</b> - Nobuyoshi Miyajima (Congress Vice President of ISUCRS 2020/ President of 75<sup>th</sup> JSCP, Japan)</li> <li>• <b>Award Special Contribution to ISUCRS</b> - Philip Fillor Caushaj (Past President of ISUCRS, USA)</li> <li>• <b>Award Presenter</b> - Ho-Kyung Chun (President of ISUCRS, Korea)</li> </ul>

13:30-14:00	<b>Oration 1 "Harry Bacon Oration"</b> Chair: Philip Fillor Caushaj (Hartford, USA) Award Presenter: Kotaro Maeda (Aichi, Japan)
<b>OR-1</b>	<ul style="list-style-type: none"> <li>• <b>The surgeon without his scalpel: life outside the operating room!</b> - Francis Seow-Choen (Singapore, Singapore)</li> </ul>

14:00-15:30	<b>Symposium 1 "TaTME is beneficial for rectal cancer surgery?"</b> Moderators: Yoshiharu Sakai (Kyoto, Japan) Philip Fillor Caushaj (Hartford, USA)
<b>SY1-1</b>	<ul style="list-style-type: none"> <li>• <b>Clinical benefits of TaTME for rectal cancer</b> - Masaaki Ito (Chiba, Japan)</li> </ul>
<b>SY1-2</b>	<ul style="list-style-type: none"> <li>• <b>Concerns and issues of taTME</b> - Suk-Hwan Lee (Seoul, Korea)</li> </ul>
<b>SY1-3</b>	<ul style="list-style-type: none"> <li>• <b>Controversies &amp; critical appraisal of taTME</b> - Joseph William Nunoo-Mensah (London, UK)</li> </ul>
<b>SY1-4</b>	<ul style="list-style-type: none"> <li>• <b>The status of taTME in China and the TaLaR trial</b> - Liang Kang (Guangzhou, China)</li> </ul>
<b>SY1-5</b>	<ul style="list-style-type: none"> <li>• <b>TaTME is beneficial for rectal cancer surgery?: From a viewpoint of a single port laparoscopic surgeon</b> - Seong Hyeon Yun (Seoul, Korea)</li> </ul>
<b>SY1-6</b>	<ul style="list-style-type: none"> <li>• <b>Pelvic Anatomy for taTME</b> - Sherief Shawki (Rochester, MN, USA)</li> </ul>

15:45-16:05	<b>Presidential Lecture</b> Chair: Narimantas Samalavicius (Vilnius, Lithuania)
<b>PL-1</b>	<ul style="list-style-type: none"> <li>• <b>History of pandemics</b> - Ho-Kyung Chun (Seoul, Korea)</li> </ul>

16:05-17:35	<b>Symposium 2 "Treatment of IBD How and When"</b> Moderators: Alessandro Fichera (Texas, USA) Akira Sugita (Kanagawa, Japan)
<b>SY2-1</b>	<ul style="list-style-type: none"> <li>• <b>Kono-S anastomosis for Crohn's disease</b> - Toru Kono (Hokkaido, Japan)</li> </ul>
<b>SY2-2</b>	<ul style="list-style-type: none"> <li>• <b>Surgical management of ulcerative colitis</b> - Feza H Remzi (New York, NY, USA)</li> </ul>
<b>SY2-3</b>	<ul style="list-style-type: none"> <li>• <b>Clinical results following intestinal resection in 1143 Crohn's disease patients</b> - Hiroki Ikeuchi (Hyogo, Japan)</li> </ul>
<b>SY2-4</b>	<ul style="list-style-type: none"> <li>• <b>Bariatric surgery in obese patients with inflammatory bowel disease</b> - Pascal Alain Gervaz (Geneva, Switzerland)</li> </ul>
<b>SY2-5</b>	<ul style="list-style-type: none"> <li>• <b>TBD</b> - Enio Oliveira (Goiás, Brazil)</li> </ul>
<b>SY2-6</b>	<ul style="list-style-type: none"> <li>• <b>Optimal management of complex Crohn's anorectal fistula</b> - Ki-Hwan Song (Daegu, Korea)</li> </ul>

## Streaming Room 1

---

8:30-10:00

### Symposium 3 "Strategy for treatment of locally advanced and recurrent rectal cancer"

Moderators: Mitsugu Sekimoto (Osaka, Japan)  
Philip Paty (NY, USA)

**SY3-1**

- Laparoscopic extended surgery for locally advanced and recurrent rectal cancer  
- Masataka Ikeda (Hyogo, Japan)

**SY3-2**

- Locally recurrent rectal cancer after local excision  
- Seung-Yong Jeong (Seoul, Korea)

**SY3-3**

- Treatment of locally recurrent rectal cancer ISUCRS 2020  
- Nitin Mishra (Arizona, USA)

**SY3-4**

- Treatment of primary advanced and recurrent rectal cancer  
- Selman Sokmen (Izmar, Turkey)

**SY3-5**

- Strategy for treatment of locally advanced and recurrent rectal cancer  
- Khaled Madbouly (Alexandria, Egypt)

**SY3-6**

- Surgical treatment following neoadjuvant chemoradiotherapy in locally advanced rectal cancer  
- Jaw-Yuan Wang (Kaohsiung, Taiwan)
- 

10:00-10:20

### Award 1 "Angelita Habr-Gamma Pioneer in Colorectal Surgery Award"

Chair: Joseph Nunoo-Mensah (London, UK)  
Award Presenter: Angelita Habr-Gama (São Paulo, Brazil)

**AW-1**

- Survival Issues in Rectal Cancer  
- Kumkum Singh (Ajmer, India)
- 

10:35-12:05

### Symposium 4 "Postoperative dysfunction after rectal cancer surgery"

Moderators: Keiji Koda (Chiba, Japan)  
Klaus Matzel (Erlangen, Germany)

**SY4-1**

- The current status of LARS in Japanese patients undergoing sphincter-preserving resection for rectal cancer  
- Kimihiko Funahashi (Tokyo, Japan)

**SY4-2**

- Bowel dysfunction after sphincter-preserving surgery for rectal cancer  
- Kang Young Lee (Seoul, Korea)

**SY4-3**

- Functional results of intersphincteric resection for low rectal cancer  
- Kazutaka Yamada (Kumamoto, Japan)

**SY4-4**

- Low anterior resection syndrome. What have we learned assessing a large "healthy" population?  
- Audrius Dulskas (Vilnius, Lithuania)

**SY4-5**

- Management of anorectal dysfunction after low rectal cancer treatment  
- Leonardo Bustamante-Lopez (São Paulo, Brazil)

**SY4-6**

- Postoperative dysfunction after rectal cancer surgery  
- Klaus E. Matzel (Erlangen, Germany)
- 

12:20-13:20

### Luncheon Seminar 1 "Fecal Incontinence Therapy and the Role of Kampo Medicine"

Moderator: Kotaro Maeda (Aichi, Japan)

Speakers: Toru Kono (Hokkaido, Japan)

Activation of Intestinal Motility of Daikenchuto: Effect Through TPR Channel

Kazufumi Shimazutsu (Hiroshima, Japan)

Clinical Evidence of Kampo Medicine in Fecal Incontinence Therapy

Sponsor: TSUMURA & CO

---

13:30-13:50

### Award 2 "The Fumio Konishi Excellence in Clinical or Research Award"

Chair: Dursun Bugra (Turkey)

Award Presenter: Fumio Konishi (Japan)

**AW-2**

- The Crohn's Enigma  
- Ronan O'Connell (Dublin, Ireland)



## Streaming Room 2

- 
- 8:30-10:00      **Symposium 7 "Present situation and future in the management of anorectal dysfunction"**  
*Moderators: Toshiki Mimura (Tochigi, Japan)*  
*Yasuko Maeda (Edinburgh, UK)*
- SY7-1**      • What is the role of surgical treatment in defecatory disorders? - our experiences  
- Tetsuo Yamana (Tokyo, Japan)
- SY7-2**      • Present situation and future in the management of anorectal dysfunction      - Yasuko Maeda (Edinburgh, UK)
- SY7-3**      • A new concept of the anatomy of the levator ani and anal sphincter mechanism and the physiology of defecation  
- Ali A. Shafik (Cairo, Egypt)
- SY7-4**      • The wide anal sphincter defects: Crossing flaps of m. puborectalis. Original technique  
- Antonio Longo (Palermo, Italy)
- SY7-5**      • Treatment of obstructed defecation      - Soon Sup Chung (Seoul, Korea)
- SY7-6**      • Present situation and future in the management of anorectal dysfunction  
- Klaus E. Matzel (Erlangen, Germany)
- 
- 10:35-12:05      **Symposium 8 "Technique and outcomes in proctology"**  
*Moderators: Parvez Sheikh (Mumbai, India)*  
*Makoto Matsushima (Kanagawa, Japan)*  
*Commentator: Stanley Goldberg (Minnesota, USA)*
- SY8-1**      • The anal sepsis (abscess and fistula) patterns      - Arun Rojanasakul (Bangkok, Thailand)
- SY8-2**      • Lift-up hemorrhoidectomy      - Hyungkyu Yang (Seoul, Korea)
- SY8-3**      • Primary sphincter repair for complex anal fistula      - Niranjan Dhanraj Agarwal (Maharashtra, India)
- SY8-4**      • Anorectal abscess -One stage v/s Two stage surgery      - Parvez Sheikh (Mumbai, India)
- SY8-5**      • Senhance surgical robotic system in colorectal surgery: a safety and feasibility report  
- Jeng-Kai Jiang (Taipei, Taiwan)
- SY8-6**      • Doppler guided dearterialization "THD with mucopexy, is an established technique for treating hemorrhoidal disease. Our experience and review of the literature  
- Shosha Mano Lindita (Tirana, Albania)
- 
- 12:20-13:20      **Luncheon Seminar 2 "Treatment strategy for advanced rectal cancer"**  
*Moderator: Tsunekazu Hanai (Aichi, Japan)*  
*Speaker: Kay Uehara (Aichi, Japan)*  
*Sponsor: Chugai Pharmaceutical Co., Ltd.*
- 
- 13:50-15:20      **Symposium 9 "Stoma complications- how we manage and prevent?"**  
*Moderators: Michio Itabashi (Tokyo, Japan)*  
*Ricardo Escalante (Caracas, Venezuela)*
- SY9-1**      • Current status and measures of stoma compilation      - Yoshito Akagi (Fukuoka, Japan)
- SY9-2**      • Stoma prolapse - how we manage and prevent?      - Kotaro Maeda (Aichi, Japan)
- SY9-3**      • Stoma complications - how we manage and prevent?      - Ricardo Escalante (Caracas, Venezuela)
- SY9-4**      • Reaching consensus for standardization of ostomy care practice guidelines for nurses and doctors  
- April Camilla Roslani (Kuala Lumpur, Malaysia)
- SY9-5**      • Complications following stoma formation: A time based audit      - Philip Fillor Caushaj (Hartford, CT, USA)
- SY9-6**      • Defunctioning stoma and the related complications in patients with locally advanced rectal cancer after concurrent chemoradiotherapy  
- Jaw-Yuan Wang (Kaohsiung, Taiwan)

## Streaming Room 2

---

15:55-17:25

### Symposium 10 "Renal dysfunction after ileostomy –Present status and how we manage"

Moderators: Hideyuki Ishida (Saitama, Japan)  
Feza Remzi (New York, NY, USA)

- SY10-1** • Renal dysfunction after ileostomy with rectal or colonic resection - Yukio Nishiguchi (Osaka, Japan)
  - SY10-2** • Early renal dysfunction after temporary ileostomy - Mizunori Yaegashi (Iwate, Japan)
  - SY10-3** • Renal dysfunction after ileostomy –Present status and how I manage - Tzu-Chi Hsu (Taipei, Taiwan)
  - SY10-4** • Renal failure after ostomy creation: influence of stoma type, management and closure - Hermann Peter Kessler (Ohio, USA)
  - SY10-5** • Renal dysfunction after ileostomy - Present status and how we manage - Alessandro Fichera (Dallas, TX, USA)
  - SY10-6** • Renal dysfunction after ileostomy –Present status and how we manage - Ashok Kumar (Lucknow, Uttar Pradesh, India)
- 

17:30-18:30

### Oral 08 "Malignant Disease 2"

Chairs: Bo-Wen Lin (Tainan, Taiwan)  
Yutaka Ogata (Fukuoka, Japan)

- O8-1** • The use of CCI® to assess the effectiveness of ERAS in the surgical treatment of patients with obstructive colon cancer - Nikolay Aleksandrovich Sizonenko (Saint Petersburg, Russia)
  - O8-2** • Laparoscopic ovarian transposition before pelvic irradiation in rectal cancer, experience from single center in Saudi Arabia - Jaffar Mohammed Alshahri (Riyadh, Saudi Arabia)
  - O8-3** • Is the prognosis different in mid-transverse colon cancers compared with other colon cancer locations? - Serkan Zenger (Istanbul, Turkey)
  - O8-4** • Is splenectomy a prognostic factor for cytoreductive surgery (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC) in patients with peritoneal metastasis (PM) ? - Tayfun Bisgin (Izmir, Turkey)
  - O8-5** • Extreme cytoreductive surgery (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC) in treatment of peritoneal metastasis (PM) - Tayfun Bisgin (Izmir, Turkey)
-

## Streaming Room 3

- 8:20-9:20 **Oral 01 "Metastasis&Recurrence"**  
*Chairs: Michiya Kobayashi (Kochi, Japan)*  
*Eiji Oki (Fukuoka, Japan)*
- O1-1** • A prediction model for DNA mismatch repair-deficient colorectal cancer - *Kenichi Chikatani (Saitama, Japan)*
  - O1-2** • Skeletal muscle depletion combined with neutrophil-to-lymphocyte ratio predicts survival of patients with metastatic colorectal cancer receiving palliative chemotherapy - *Daisuke Takayanagi (Fukushima, Japan)*
  - O1-3** • The identification of the middle rectal artery detected by contrast-enhanced magnetic resonance imaging is a predictive factor of lateral lymph node metastasis in lower rectal cancer - *Yosuke Iwasa (Nara, Japan)*
  - O1-4** • The clinical significance of RAS status in patients with colorectal liver metastasis - *Kiichi Sugimoto (Tokyo, Japan)*
  - O1-5** • Treatment results of locally recurrent rectal cancer undergoing preoperative chemoradiation therapy - *Junichi Sakamoto (Tochigi, Japan)*
  - O1-6** • A case of anastomotic recurrent descending colon cancer successfully treated with single-incision laparoscopic partial colectomy with intracorporeal anastomosis - *Yozo Suzuki (Osaka, Japan)*

- 9:20-10:20 **Oral 02 "Rectal Cancer 1"**  
*Chairs: Kazuo Hase (Saitama, Japan)*  
*Kazuhiro Sakamoto (Tokyo, Japan)*
- O2-1** • Site-dependent risk factors for local recurrence after rectal cancer surgery - *Tadahiko Masaki (Tokyo, Japan)*
  - O2-2** • The availability of specimen MRI to evaluate pRMstatus intraoperatively in patients with advanced rectal cancer - *Terufumi Yoshida (Osaka, Japan)*
  - O2-3** • Micro and Micro level analysis of Indocyanine green fluorescence in tumor-draining lymph nodes in colorectal cancer - *Kenji Okita (Hokkaido, Japan)*
  - O2-4** • Criteria for diverting stoma creation in laparoscopic low anterior resection for rectal cancer - *Ai Sadatomo (Tochigi, Japan)*
  - O2-5** • The possibility of a transanal tube as an alternative to diverting stoma in terms of preventing severe postoperative anastomotic leakage after laparoscopic low anterior resection - *Madoka Hamada (Osaka, Japan)*
  - O2-6** • Transanal tube is effective for prevention of anastomotic leakage after minimally invasive surgery for patients with locally advanced rectal cancer:single-center experience - *Dae Hee Pyo (Seoul, Korea)*

- 10:20-11:20 **Oral 03 "Rectal Cancer 2"**  
*Chairs: Shungo Endo (Fukushima, Japan)*  
*Masaki Fukunaga (Chiba, Japan)*
- O3-1** • A rectal cancer case with persistent descending mesocolon (PDM) that we treated with robot-assisted surgery - *Aya Kobari (Tokyo, Japan)*
  - O3-2** • Surgical outcomes of robotic-assisted surgery for rectal tumor - *Kentaro Hokonohara (Fukuoka, Japan)*
  - O3-3** • Long term outcome of lower advanced rectal cancer patients treated with total mesorectal excision with lateral pelvic lymph node dissection after neoadjuvant radiotherapy or chemoradiotherapy - *Wataru Sakamoto (Fukushima, Japan)*
  - O3-4** • Selective surgical approaches for mid and low rectal cancer - *Junichiro Kawamura (Osaka, Japan)*
  - O3-5** • Single port robot assisted abdominoperineal resection : a case report of first 4 experience - *Moonsuk Choi (Seoul, Korea)*
  - O3-6** • How should we evaluate the specimen of pelvic exenteration for primary or locally recurrent rectal cancer? - *Toshisada Aiba (Nagoya, Japan)*

## Streaming Room 3

- 11:20-12:00 **Oral 04 "Polyposis&Cancer"**  
*Chairs: Koji Komori (Aichi, Japan)*  
*Naohiro Tomita (Hyogo, Japan)*
- O4-1** • Recent trends of prognosis and management in patients with familial adenomatous polyposis in a Japanese hospital-based population - *Yoshiko Mori (Saitama, Japan)*
  - O4-2** • Clinical feasibility of genomic DNA screening for hereditary colorectal cancer from the background of cancer genomic medicine and watch and wait strategy in lower rectal cancer - *Yoshinaga Okugawa (Mie, Japan)*
  - O4-3** • Current status and issues concerning universal tumor screening for Lynch syndrome at a Japanese cancer center - *Akira Ouchi (Aichi, Japan)*
  - O4-4** • Safety of laparoscopic surgery for obstructive colorectal cancer after colorectal stenting - *Hidefumi Nishimori (Hokkaido, Japan)*

- 13:30-14:30 **Oral 05 "Rectal Cancer 3"**  
*Chairs: Yojiro Hashiguchi (Tokyo, Japan)*  
*Heita Ozawa (Tochigi, Japan)*
- O5-1** • Examination of anal canal squamous cell carcinoma cases - *Keiji Matsuda (Tokyo, Japan)*
  - O5-2** • Image navigation surgery with fluorescent ureteral catheter for the recurrent tumor in the pelvic cavity - *Yuki Matsumi (Osaka, Japan)*
  - O5-3** • Neutrophil-lymphocyte ratio after neoadjuvant systemic chemotherapy is a potential predictive marker for good pathologic response in patients with advanced rectal cancer - *Atsushi Ogura (Aichi, Japan)*
  - O5-4** • Prognostic factor for locally advanced rectal cancer after surgery following chemoradiotherapy - *Takahiro Irie (Tokyo, Japan)*
  - O5-5** • Induction of total neoadjuvant therapy for lower rectal cancer in our institute - *Yuji Toiyama (Mie, Japan)*
  - O5-6** • Long-term oncological result of neoadjuvant concurrent chemoradiotherapy for mid-low rectal cancer follow by curative resection - *Ren Hao Chan (Tainan, Taiwan)*

- 14:30-15:30 **How I do it 1**  
*Chairs: Jenq-Chang Lee (Tainan, Taiwan)*  
*Ichiro Takemasa (Hokkaido, Japan)*
- H-01** • The advantage of robotic surgery for low rectal cancer when performing a side-to-end anastomosis in patient with anal stenosis due to hemorrhoidectomy: a case report - *Yosuke Tajima (Aichi, Japan)*
  - H-02** • Our procedure of total pelvic exenteration combined with sacral resection - *Koji Komori (Aichi, Japan)*
  - H-03** • Laparoscopic right hemicolectomy with D3 lymph node dissection using a retroperitoneal approach - *Hirotohi Kobayashi (Kanagawa, Japan)*
  - H-04** • Change in neutrophil / lymphocyte ratio during chemotherapy predicts prognosis in patients with unresectable advanced/metastatic colorectal cancer - *Tetsutaro Nemoto (Tokyo, Japan)*
  - H-05** • Combined laparoscopic and transperineal endoscopic total pelvic exenteration for the vaginal stump recurrence of cervical cancer after chemoradiotherapy - *Ryo Ohno (Fukuoka, Japan)*
  - H-06** • ESD Strategy for Colorectal Tumors at an Anastomotic Site - *Daiki Nemoto (Fukushima, Japan)*

- 15:30-16:30 **How I do it 2**  
*Chairs: Tokiko Yamaguchi (Tokyo, Japan)*  
*GuanGen Yang (Hangzhou, China)*
- H-07** • Prognosis after radical surgery for suprasphincteric fistula-in-ano - *Saburo Hisano (Kumamoto, Japan)*
  - H-08** • A novel surgical technique for anal fistula surgery designed to preserve the anal sphincter function and anoderm - *Yasuhiro Shimojima (Kanagawa, Japan)*

## Streaming Room 3

- H-09** • Clinical outcomes of perineal stapled prolapse resection (PSPR) for elderly patients with rectal prolapse  
- *Hidefumi Nishimori (Hokkaido, Japan)*
- H-10** • Double loop puborectoplasty for the treatment of neurogenic fecal incontinence  
- *Ismail A. Shafik (Cairo, Egypt)*
- H-11** • Hands contamination of health care workers at a hospital in Albania  
- *Zhinzela Qyli (Korce, Albania)*
- 

16:30-17:30

### Oral 06 "Benign Disease"

*Chairs: Suguru Hasegawa (Fukuoka, Japan)  
Seiichiro Yamamoto (Kanagawa, Japan)*

- O6-1** • Patients with perianal fistula have higher levels of aggression than those with hemorrhoidal disease  
- *Muzaffer Akkoca (Ankara, Turkey)*
- O6-2** • Comparison of morbidity and cost-effectiveness between ghost ileostomy and defunctioning ileostomy in low anterior resection  
- *Serkan Zenger (Istanbul, Turkey)*
- O6-3** • Problems in tropical proctology  
- *Elroy Patrick Weledji (Limbe, Cameroon)*
- O6-4** • 3.5kg pelvic desmoid tumor in a 23year old male: surgical management  
- *Minahi Ilyas (London, United Kingdom)*
- O6-5** • An unusual complication: Post-operative Guillain-Barre syndrome in a Crohn's patient. A case report  
- *Afroza Sharmin (London, United Kingdom)*
- O6-6** • Microbiology pus swabs in emergency drainage of perianal abscess - are they influencing patient management?  
- *Adam O'Connor (Manchester, United Kingdom)*
- 

17:30-18:30

### Oral 07 "Malignant Disease 1"

*Chairs: Koki Otsuka (Iwate, Japan)  
Yoshihisa Saida (Tokyo, Japan)*

- O7-1** • Rectal adenocarcinoma with synchronous prostatic malignancy: Multidisciplinary approach and outcomes  
- *Jayan Dewantha Jayasinghe (London, United Kingdom)*
- O7-2** • Increasing colorectal cancer cases in young adults - Do mismatch repair gene mutations and ethnicity play a role?  
- *Victor Kung (London, United Kingdom)*
- O7-3** • Prognostic factors predicting overall survival in patients with primary non metastatic colorectal cancer who received palliative intervention or palliative treatment  
- *Mariam Rizk (London, United Kingdom)*
- O7-4** • Non-operative management of locally advanced rectal cancer following chemoradiotherapy: A retrospective study  
- *Jayan Dewantha Jayasinghe (London, United Kingdom)*
- O7-5** • Characteristics and outcomes of rectal cancer in young adults: Experience from an urban population in the west  
- *Jayan Dewantha Jayasinghe (London, United Kingdom)*
- O7-6** • Factors affecting quality of histological specimens in laparoscopic anterior resections – a retrospective cohort study  
- *Adam O'Connor (Salford, United Kingdom)*
-

## Streaming Room 1

- 
- 8:30-10:00 **Joint Symposium 1 "Watch and wait –present and future"**  
*Moderators: Masahiko Watanabe (Kanagawa, Japan)*  
*Igor V Pravosudov (St. Petersburg, Russia)*
- JSY1-1** • Watch and wait: present and future - *Angelita Habr-Gama (São Paulo, Brazil)*
- JSY1-2** • What is the optimal interval for assessment of tumour response / surgery after chemoradiotherapy?  
 - *Igor V Pravosudov (St. Petersburg, Russia)*
- JSY1-3** • Current status of "watch-and-wait" rectal cancer treatment in asia-pacific countries  
 - *Jung-Wook Huh (Seoul, Korea)*
- JSY1-4** • The verdict on "watch and wait" strategy in the treatment of rectal cancer  
 - *Nasser Alsanea (Riyadh, Saudi Arabia)*
- JSY1-5** • The french experience for organ preservation - *Eric Rullier (Pessac, France)*
- JSY1-6** • Non-operative Management of Rectal Cancer following neoadjuvant chemoradiation: Rationale, Clinical Results, Tumor Biology. - *Philip B. Paty (New York, USA)*
- 
- 10:15-10:45 **Oration 2 "Tetsuichiro Muto Oration"**  
*Chair: Ho-Kyung Chun (Seoul, Korea)*  
*Award Presenter: Tetsuichiro Muto (Tokyo, Japan)*
- OR-2** • Controversies over the treatment strategy for early stage colorectal cancer - *Fumio Konishi (Tokyo, Japan)*
- 
- 10:45-12:15 **Joint Symposium 2 "Challenges to reduce anastomotic leakage after colorectal surgery"**  
*Moderators: Hirotoishi Hasegawa (Tokyo, Japan)*  
*Joseph Nunoo-Mensah (London, UK)*
- JSY2-1** • New technology to reduce symptomatic anastomotic leakage after low anterior resection  
 - *Akio Shiomi (Shizuoka, Japan)*
- JSY2-2** • How to overcome and management the risk factors for anastomotic leak - *Jun Won Um (Seoul, Korea)*
- JSY2-3** • Indocyanine green fluorescence imaging to reduce the risk of anastomotic leakage in colorectal cancer surgery: a propensity score matched cohort study  
 - *Jun Watanabe (Kanagawa, Japan)*
- JSY2-4** • Trans-Anal assisted ARR and new proposal in the treatment of ultra-low rectal cancer  
 - *Antonio Longo (Palermo, Italy)*
- JSY2-5** • Challenges to reduce anastomotic leak - *Khaled Madbouly (Alexandria, Egypt)*
- JSY2-6** • Major leakage after colorectal cancer surgery: A 10 years nationwide study - *Jin-Tung Liang (Taipei, Taiwan)*
- 
- 13:40-15:10 **Joint Symposium 3 "Lateral node dissection for rectal cancer in the era of neoadjuvant therapy"**  
*Moderators: Tadahiko Masaki (Tokyo, Japan)*  
*Khaled Madbouly (Alexandria, Egypt)*
- JSY3-1** • MIS for advanced low rectal cancer - *Jun Seok Park (Daegu, Korea)*
- JSY3-2** • Management of lateral compartment in locally advanced lower rectal cancer  
 - *Yukihide Kanemitsu (Tokyo, Japan)*
- JSY3-3** • Current consensus of lateral pelvic lymph node dissection in Korea - *Yoon Suk Lee (Seoul, Korea)*
- JSY3-4** • Neoadjuvant chemotherapy, chemoradiotherapy and selective lateral node dissection through minimally invasive approach for poor-risk rectal cancer  
 - *Tsuyoshi Konishi (Tokyo, Japan)*
- JSY3-5** • Lateral node dissection in rectal cancer post-neoadjuvant therapy – what, when, why, and by whom?  
 - *Desmond C. Winter (Dublin, Ireland)*
- JSY3-6** • What is the optimal area of lateral lymph node dissection for low rectal cancer?  
 - *Keiichi Takahashi (Tokyo, Japan)*

## Streaming Room 1

---

15:10-15:25

### Closing Ceremony

- Closing Remark - *Ho-Kyung Chun (President of ISUCRS, Korea)*
  - Greeting - *Narimantas Samalavicius (President Elect of ISUCRS, Lithuania)*
  - Greeting - *Dursun Bugra (Congress President of 31<sup>st</sup> ISUCRS, Turkey)*
  - Flag hand over from Japan to Turkey - *Kotaro Maeda (Congress President of ISUCRS 2020, Japan)*  
- *Dursun Bugra (Congress President of 31<sup>st</sup> ISUCRS, Turkey)*
  - Final Greeting - *Kotaro Maeda (Congress President of ISUCRS 2020, Japan)*
-

## Streaming Room 2

- 8:30-10:00 **Symposium 11 "NOSES-present and future-"**  
*Moderators: Shigeki Yamaguchi (Saitama, Japan)*  
*Chuan-Gang Fu (Shanghai, China)*
- SY11-1** • The past, present and future of natural orifice specimen extraction surgery for colorectal cancer  
 - Xishan Wang (Beijing, China)
- SY11-2** • NOSES with new technology - Robotic ISR combined with taISR for very low rectal cancer -  
 - Junji Okuda (Osaka, Japan)
- SY11-3** • Prospective multicenter study of reduced port surgery combined with transvaginal specimen extraction for colorectal cancer resection  
 - Hidekazu Takahashi (Osaka, Japan)
- SY11-4** • Registration of rectal cancer-related clinical trials on chinese clinical trial registry  
 - Shi-Can Zhou (Kaifeng, Henan, China)
- SY11-5** • Totally laparoscopic sigmoidectomy with natural office specimen extraction  
 - Atsushi Nishimura (Niigata, Japan)
- SY11-6** • Laparoscopic natural orifice specimen extraction surgery versus conventional laparoscopic surgery in colorectal cancer: better choice for CRC patients  
 - Chuan-Gang Fu (Shanghai, China)

- 10:10-10:50 **Oral 16 "Benign Condition"**  
*Chairs: Takashi Naito (Kanagawa, Japan)*  
*Kazutomo Tagashi (Fukushima, Japan)*
- O16-1** • Bowel habits and gender correlate with proximal colon length measured by CT Colonography: *post hoc* analysis  
 - Kazutomo Togashi (Fukushima, Japan)
- O16-2** • Postoperative rectovaginal fistula treated successfully by laparoscopic surgery using trans anal TME  
 - Miki Soeda (Osaka, Japan)
- O16-3** • Low anterior resection syndrome post laparoscopic transanal total mesorectal excision (TaTME) vs Robotic TME  
 - Kaori Futaba (Shatin, N. T., Hong Kong)
- O16-4** • Long-term outcomes of the conservative treatment package of solitary rectal ulcer syndrome  
 - Worawarn Worasawate (Bangkok, Thailand)

- 10:50-11:30 **Oral 17 "IBD 1"**  
*Chairs: Jin-ichi Hida (Osaka, Japan)*  
*Hiroki Ohge (Hiroshima, Japan)*
- O17-1** • Undesired permanent ileostomy after ileal-pouch anal anastomosis for ulcerative colitis, which was associated with pouch fistula  
 - Shinnosuke Uegami (Hiroshima, Japan)
- O17-2** • Genomic landscape of early-stage ulcerative colitis-associated neoplasia in the Japanese population  
 - Kenta Matsumoto (Hiroshima, Japan)
- O17-3** • Hematologic indices as surrogate markers for 6-thioguanine nucleotides in inflammatory bowel disease  
 - Masato Aizawa (Fukushima, Japan)
- O17-4** • Clinical evidence for the effectiveness and safety of tofacitinib in patients with ulcerative colitis  
 - Masato Aizawa (Fukushima, Japan)

- 11:30-12:00 **Oral 18 "IBD 2"**  
*Chairs: Yuji Funayama (Miyagi, Japan)*  
*Atsushi Nakajima (Kanagawa, Japan)*
- O18-1** • The deep learning prediction of pouchitis after receiving ileal pouch-anal anastomosis in patients with ulcerative colitis  
 - Shodai Mizuno (Tokyo, Japan)
- O18-2** • Long-term outcome after sphincter-preserving surgery for perianal fistulae with Crohn's disease in the era of anti-TNF agents  
 - Yusuke Watadani (Hiroshima, Japan)

## Streaming Room 2

- O18-3** • Colorectal cancer and dysplasia surveillance program for patients with inflammatory bowel disease  
- *Daisaku Kuwahara (Kumamoto, Japan)*
- 

12:30-13:30 **Luncheon Seminar 3 "Current Situations of Management of Chronic Constipation in Japan - Based on Japanese Guideline for Management of Chronic Constipation 2017 -"**  
*Moderator: Atsushi Nakajima (Kanagawa, Japan)*  
*Speaker: Toshiki Mimura (Tochigi, Japan)*  
*Sponsor: Astellas Pharma Inc.*

---

13:40-15:10 **Dilemmas & Debates "In Colorectal Surgery (DDCRS) Session"**  
*Chairs: Joseph Nunoo-Mensah (London, UK)*  
*Narimantas Samalavicius (Klaipeda, Lithuania)*

1. ESD versus TAMIS/TEM/TEO for T1 rectal cancer - *Debate speakers tbc*
2. TaTME – Hype or the next best thing in rectal cancer surgery - *Debate speakers tbc*
3. Routine lymph node dissection versus neoadjuvant radiotherapy in rectal cancer. My way is the right way! - *Debate speakers tbc*

---

## Streaming Room 3

- 8:20-9:00 **Oral 09 "Other Malignant"**  
*Chairs: Kenji Katsumata (Tokyo, Japan)*  
*Jun-Ichi Tanaka (Kanagawa, Japan)*
- O9-1** • The risk factors of postoperative outcomes for elderly colorectal cancer patients  
 - Yuriko Matsumiya (Tokyo, Japan)
  - O9-2** • Evaluation of bowel blood flow by ICG fluorescence contrast in laparoscopic sphincter-sparing surgery for rectal cancer  
 - Naoto Fujimoto (Osaka, Japan)
  - O9-3** • Usefulness of colorectal stenting for bridge to surgery for obstructive colorectal cancer  
 - Takumi Hikawa (Kanagawa, Japan)
  - O9-4** • Incisional hernia on the midline umbilical incision after laparoscopic colorectal cancer resection: an ad-hoc study of a prospective randomized clinical trial  
 - Jesse Yu Tajima (Tokyo, Japan)

- 9:00-10:00 **Oral 10 "Colon Cancer 1"**  
*Chairs: Takanori Goi (Fukui, Japan)*  
*Masayuki Ohue (Osaka, Japan)*
- O10-1** • Intracorporeal overlap anastomosis after laparoscopic colectomy viewed from the time required for anastomosis  
 - Heita Ozawa (Tochigi, Japan)
  - O10-2** • Laparoscopic surgery for advanced transverse colon cancer -D3 lymph node dissection with medial approach-  
 - Kenta Nakahara (Kanagawa, Japan)
  - O10-3** • Early- and long-term laparoscopic surgical outcomes for transverse colon cancer  
 - Kazuki Ueda (Osaka, Japan)
  - O10-4** • Feasibility and efficacy of high ligation of the inferior mesenteric artery for cancer of the descending colon under indocyanine green fluorescence imaging  
 - Taro Munechika (Fukuoka, Japan)
  - O10-5** • The utility of CT derived markers of visceral obesity in predicting operative difficulty and outcomes in laparoscopic right hemicolectomy  
 - David Proud (VIC, Australia)
  - O10-6** • Colonic stent for obstructive colorectal cancer: Preoperative nutritional management and postoperative complications  
 - Yoshihisa Saida (Tokyo, Japan)

- 10:00-10:50 **Oral 11 "Colon Cancer 2"**  
*Chairs: Madoka Hamada (Osaka, Japan)*  
*Junichiro Kawamura (Osaka, Japan)*
- O11-1** • Combination of microsatellite instability and Immunoscore for the evaluation of immune response in colorectal cancer  
 - Kenji Fujiyoshi (Fukuoka, Japan)
  - O11-2** • The association between tumor tissue miR-34a expression, tumor budding grade, and the clinical significance in surgically resected colorectal cancer patients  
 - Tadanobu Shimura (Mie, Japan)
  - O11-3** • A Cases of adenosquamous carcinoma of the ascending colon  
 - Kohei Ono (Tokyo, Japan)
  - O11-4** • Impact of microsatellite instability testing in the management of stage II colon cancer with high-risk features  
 - Duangkamon Bunkham (Bangkok, Thailand)
  - O11-5** • Enhanced recovery after surgery improves 5-year overall survival in non-metastatic colorectal cancer (especially stage III) following curative resection  
 - Sarinda Lertbannaphong (Bangkok, Thailand)

- 10:50-11:50 **Oral 12 "Early Cancer"**  
*Chairs: Hirotohi Kobayashi (Kanagawa, Japan)*  
*Shinji Tanaka (Hiroshima, Japan)*
- O12-1** • Urinary metabolomic profiles of colorectal cancers  
 - Ryutaro Udo (Tokyo, Japan)
  - O12-2** • Prognostic risk factors of lymph node metastasis in cases with pT1 colorectal cancer  
 - Takafumi Suzuki (Kumamoto, Japan)

## Streaming Room 3

- O12-3** • Difference in pathologic assessment of serrated colorectal lesions between Japanese and Australian pathologists  
- Daiki Nemoto (Fukushima, Japan)
- O12-4** • What is the relevant surgical extent for clinical stage I right colon cancer? - Han Deok Kwak (Gwangju, Korea)
- O12-5** • New anastomosis technique to prevent anastomotic leakage in laparoscopic anterior resection for rectal cancer, especially upper rectal cancer  
- Koji Ando (Fukuoka, Japan)
- O12-6** • The intraoperative fluorescence lymph flow navigation in colorectal surgery  
- Yusuke Suwa (Kanagawa, Japan)

11:50-12:20

### Oral 13 "Stoma"

Chairs: Ken Eto (Tokyo, Japan)  
Morito Maruta (Aichi, Japan)

- O13-1** • Multicenter randomized phase two study on effectiveness of negative pressure wound therapy for the wound of ileostomy closure  
- Koichiro Kojima (Tokyo, Japan)
- O13-2** • Predisposing factors and clinical impact of high-output syndrome after sphincter-preserving surgery with covering ileostomy for rectal cancer-  
- Yoko Zaitzu (Tokyo, Japan)
- O13-3** • A combination of subcuticular sutures and subcutaneous closed-suction drainage reduces the risk of incisional surgical site infection in loop ileostomy closure  
- Kohei Fukuoka (Nara, Japan)

13:40-14:30

### Oral 14 "Incontinence"

Chairs: Kinya Okamoto (Tokyo, Japan)  
Satoru Umegae (Mie, Japan)

- O14-1** • Characteristics of male patients with fecal incontinence compared to female  
- Sayuri Matsushima (Kanagawa, Japan)
- O14-2** • Is there any gender difference of clinical characteristics in patients with fecal incontinence?  
- Toshiki Mimura (Tochigi, Japan)
- O14-3** • Is "clustering of stools" an exclusive symptom to low anterior resection syndrome  
- Yuko Homma (Tochigi, Japan)
- O14-4** • Anal and perineal reconstruction surgery and outcomes for severe obstetric anal sphincter injuries  
- Tomoko Takahashi (Chiba, Japan)
- O14-5** • Standardized method of the thiersch operation for the treatment of fecal incontinence  
- Cheong Ho Lim (Namyangju, Korea)

14:30-15:10

### Oral 15 "Anal Disease"

Chairs: Shota Takano (Kumamoto, Japan)  
Kazuhiko Yoshioka (Osaka, Japan)

- O15-1** • Prognosis after radical surgery for high intersphincteric fistula-in-ano: a retrospective study to highlight the importance of the conjoined longitudinal muscle detected by endoanal ultrasound  
- Saburo Hisano (Kumamoto, Japan)
- O15-2** • A complex fistula in ano presenting with pelvic and retroperitoneal abscess treated by ligation of intersphincteric fistula tract: a case report  
- Karuna Junmitsakul (Bangkok, Thailand)
- O15-3** • LE-ALTA combination method for hemorrhoids  
- Satoka Nasu (Tokyo, Japan)

## Streaming Room 1

---

8:30-10:00

### Joint Symposium 4 "Strategy of diverticular disease of the colon"

Moderators: Soichiro Ishihara (Tokyo, Japan)

Pascal Gervaz (Geneva, Switzerland)

Special Comment: Stanley Goldberg (Minnesota, USA)

**JSY4-1**

- Treatment strategies for colonic diverticulitis - Keiji Koda (Chiba, Japan)

**JSY4-2**

- Diverticulitis: Changing indications for surgery! Who and when to operate!  
- Philip Fillor Caushaj (Hartford, CT, USA)

**JSY4-3**

- Impact of DICA classification on the management of diverticular disease - Giovanni Brandimarte (Rome, Italy)

**JSY4-4**

- Paradigm Shift: new trends in the management of diverticulitis - Mehmet Ayhan Kuzu (Ankara, Turkey)

**JSY4-5**

- Natural history of sigmoid diverticulitis: 10-year results of a prospective observational monocentric study  
- Pascal Alain Gervaz (Geneva, Switzerland)

**JSY4-6**

- Personalized treatment in diverticular disease - Ismail Gogenur (Koege, Denmark)
- 

10:15-11:45

### Joint Symposium 5 "Artificial intelligence in colorectal field"

Moderators: Hideki Ueno (Saitama, Japan)

Richard Fortunato (Pennsylvania, USA)

**JSY5-1**

- Real time AI identification and diagnosis of colorectal cancer - Fumio Ishida (Kanagawa, Japan)

**JSY5-2**

- Colorectal surgeon's practical approach to AI into clinical practice - Daeyoun David Won (Seoul, Korea)

**JSY5-3**

- Development of an artificial intelligence navigation system to indicate anatomical landmarks during laparoscopic surgery for colorectal cancer  
- Masafumi Inomata (Oita, Japan)

**JSY5-4**

- Artificial Intelligence in surgery - Ho-Kyung Chun (Sungkyunkwan, Korea)

**JSY5-5**

- The introduction of artificial intelligence to colorectal daily clinical practice - Koji Okabayashi (Tokyo, Japan)

**JSY5-6**

- Optimization of a new T1b colon cancer treatment strategy using artificial intelligence  
- Kenta Kasahara (Tokyo, Japan)

---

## Poster 01 "Colon Cancer 1"

- P1-1** • Laparoscopic resection following decompression with a drainage tube for obstructive colorectal cancer in elderly patients  
- *Yoshinori Kagawa (Hyogo, Japan)*
- P1-2** • Comparison self-expandable metallic stent and trans-anal decompression tube for obstructive colorectal cancer  
- *Taiki Masuda (Tokyo, Japan)*
- P1-3** • Angiopoietin-2 as a prognostic factor in patients with incurable stage IV colorectal cancer  
- *Ryoichi Tsukamoto (Tokyo, Japan)*
- P1-4** • Distribution of neuroendocrine marker-positive cells in colorectal cancer tissue and adjacent mucosa  
- *Takashi Ogimi (Kanagawa, Japan)*
- P1-5** • Efficacy of preoperative chemical bowel preparation for surgical site infection after surgery for colorectal cancer in patients with diabetes mellitus and obesity  
- *Yutaka Hattori (Kanagawa, Japan)*
- 

## Poster 02 "Colon Cancer 2"

- P2-1** • Surgical strategies and outcomes for duodenal-invasive colon cancer  
- *Ikuma Shioi (Shizuoka, Japan)*
- P2-2** • The short-term prognosis of colorectal cancer surgery for the elderly (over 80 years old)  
- *Tomokazu Kishiki (Tokyo, Japan)*
- P2-3** • Is it necessary that chemotherapy for elderly people of Stage II colorectal cancer?  
- *Shingo Kawano (Tokyo, Japan)*
- P2-4** • Assessment of frailty and short-term outcomes in the elderly patients with colorectal cancer  
- *Ayaka Ito (Kanagawa, Japan)*
- P2-5** • Two-stage operations in patients with acute right-sided colonic obstruction: a 15-year single institution experience  
- *Yi-Chiao Cheng (Taipei, Taiwan)*
- 

## Poster 03 "Rectal Cancer 1"

- P3-1** • Is the histological response to preoperative chemoradiotherapy in locally advanced rectal cancer a predictor of treatment efficacy at recurrence?  
- *Kazutake Okada (Kanagawa, Japan)*
- P3-2** • Tumor-infiltrating lymphocytes (TILs) in biopsy specimens obtained 7 days after starting chemoradiotherapy (CRT) for rectal cancer are predictors of the response to CRT  
- *Hiroshi Miyakita (Kanagawa, Japan)*
- P3-3** • Therapeutic effects of oxaliplatin-based neoadjuvant chemotherapy in patients with locally advanced rectal cancer  
- *Toshimoto Kimura (Iwate, Japan)*
- P3-4** • Safety and efficacy of down staging of neoadjuvant chemotherapy with modified FOLFOX6 (combination chemotherapy of infusional 5-FU/I-Leucovorin and intermittent oxaliplatin) with bevacizumab in patients with advanced lower rectal cancer  
- *Chihiro Kosugi (Chiba, Japan)*
- 

## Poster 04 "Rectal Cancer 2"

- P4-1** • Anatomical validation of internal iliac vessels assessed by three-dimensional angiographic analysis  
- *Yuya Takenaka (Hyogo, Japan)*
- P4-2** • Treatment result of laparoscopic surgery for advanced low rectal cancer  
- *Koki Goto (Kanagawa, Japan)*
- P4-3** • Extended total mesorectal excision based on the avascular planes of the retroperitoneum for locally advanced rectal cancer with lateral pelvic sidewall invasion  
- *Naohito Beppu (Hyogo, Japan)*
- P4-4** • Short term outcomes of robotic-assisted abdominoperineal resection in our hospital  
- *Yudai Yamamoto (Tokyo, Japan)*
- 

## Poster 05 "Advanced Cancer 1"

- P5-1** • Diagnostic accuracy of CEA and CA19-9 in the surveillance of colorectal cancer after curative resection  
- *Hajime Matsuida (Fukushima, Japan)*

- P5-2** • Clinicopathological characteristics of anastomotic recurrence after curative resection for colorectal cancer  
- Keigo Matsunaga (Tokyo, Japan)
- P5-3** • Analysis of prognostic factors for patients with unresectable stageIV colorectal cancer  
- Tadao Tokoro (Osaka, Japan)
- P5-4** • Hyperthermic intraperitoneal chemotherapy and cytoreductive surgery for patients with appendiceal pseudomyxoma peritonei  
- Mitsuhiro Morikawa (Fukui, Japan)
- 

## Poster 06 "Advanced Cancer 2"

- P6-1** • Decision of indication of lateral pelvic lymph node dissection for rectal cancer using MRI and FDG-PET  
- Shimpei Ogawa (Tokyo, Japan)
- P6-2** • Outcome of resection for para-aortic lymph node metastasis from colorectal cancer  
- Hiroka Kondo (Saitama, Japan)
- P6-3** • A case of stage IV anal squamous cell carcinoma with long-term survival after multidisciplinary treatment  
- Katsuji Sawai (Fukui, Japan)
- P6-4** • A case with a solitary right axillary metastasis after curative surgery for descending colon cancer  
- Hiroshi Sugano (Tokyo, Japan)
- 

## Poster 07 "Advanced Cancer 3"

- P7-1** • Impact of adjuvant chemotherapy after curative resection of stage IV colorectal cancer excluding liver metastasis  
- Masahiro Asari (Saitama, Japan)
- P7-2** • Investigation adjuvant chemotherapy for liver metastasis of colorectal cancer in our hospital  
- Masahisa Ohkuma (Tokyo, Japan)
- P7-3** • Efficacy and safety of mFOLFOX6 as perioperative chemotherapy for resectable liver metastases from colorectal cancer  
- Takahiro Wada (Tokyo, Japan)
- P7-4** • Efficacy of chemotherapy before hepatectomy for liver metastases of colorectal cancer  
- Yuichi Hisamatsu (Fukuoka, Japan)
- P7-5** • Current status of chemotherapy for StageIV colorectal cancer in the elderly  
- Fumi Shigehara (Kanagawa, Japan)
- 

## Poster 08 "Early cancer, Benign tumor"

- P8-1** • Laparoscopic right hemicolectomy for a patient with situs inversus totalis: report of a case  
- Mitsunori Ushigome (Tokyo, Japan)
- P8-2** • A useful mesorectal dissection method during robot-assisted laparoscopic tumor-specific mesorectal excision (TSME) for rectal cancer: the efficient switching technique (EST)  
- Hiroshi Takeyama (Osaka, Japan)
- P8-3** • The impact of sustained metformin use on survival in diabetes patients of operable colorectal cancer: A nationwide cohort study  
- Ping-Teng Chu (Kaohsiung, Taiwan)
- P8-4** • An extremely rare case of neuromuscular and vascular hamartoma of the appendix  
- Takahiro Sasaki (Kanagawa, Japan)
- P8-5** • A case of appendiceal endometriosis indistinguishable from appendical mucinous neoplasm  
- Takuya Suzuki (Kanagawa, Japan)
- 

## Poster 09 "Malignant tumor 1"

- P9-1** • Cap polyposis treated with laparoscopic-assisted total colectomy and ileal J-pouch anal anastomosis  
- Tomohiro Minagawa (Hyogo, Japan)
- P9-2** • Intraoperative blood flow evaluation by indocyanine green fluorescent system can detect potential blood flow deficiency in colorectal surgery  
- Tomoyuki Momma (Fukushima, Japan)

- P9-3** • Radiation-induced small intestine angiosarcoma presented with obstruction: a rare complication of radiotherapy  
- Ren Hao Chan (Tainan, Taiwan)
- P9-4** • Comparison of long-term outcomes of stent versus decompression tubes and stomas as bridge to surgery for obstructive colorectal cancer  
- Fumitaka Asahara (Chiba, Japan)
- P9-5** • A case of sinusoidal obstructive syndrome with similarity to the metastatic liver cancer  
- Saori Yatabe (Tokyo, Japan)
- 

## Poster 10 "Malignant tumor 2"

- P10-1** • Short-term outcomes of patients with robotic surgery for rectal cancer  
- Jumpei Takashima (Kanagawa, Japan)
- P10-2** • Thirty-day Readmission after elective colorectal surgery for colon cancer: a single-center cohort study  
- Han Deok Kwak (Gwangju, Korea)
- P10-3** • Treatment results of small bowel adenocarcinoma  
- Hideto Fujita (Kanazawa, Japan)
- P10-4** • Clinicopathological study in 65 anal fistula cancer patients  
- Emi Yamaguchi (Tokyo, Japan)
- 

## Poster 11 "POP"

- P11-1** • Laparoscopic rectopexy may be a recommended procedure for Japanese patients with a recurrence following surgical repair of rectal prolapse  
- Yasuyuki Miura (Tokyo, Japan)
- P11-2** • Surgical techniques and results of laparoscopic suture rectopexy for complete rectal prolapse at our hospital  
- Satoshi Matsuda (Shizuoka, Japan)
- P11-3** • Lumbosacral discitis following laparoscopic direct suture rectopexy  
- Sho Yoshino (Tokyo, Japan)
- P11-4** • Laparoscopic direct suture rectopexy for rectal prolapse  
- Akiharu Kurihara (Tokyo, Japan)
- 

## Poster 12 "Benign Disease"

- P12-1** • A case of laparoscopic surgery for retroperitoneal abscess and descending colon and dermal fistula after severe pancreatitis  
- Lin Fung Chan (Kanagawa, Japan)
- P12-2** • Comparative study of elderly and young people with sigmoid volvulus  
- Sei Kurokawa (Hokkaido, Japan)
- P12-3** • Which is more effective? Spinal cord stimulation or sacral nerve stimulation for functional anorectal pain  
- Shota Takano (Kumamoto, Japan)
- P12-4** • Evacuatory dysfunction after stapled hemorrhoidopexy: A case report of rectal pocket syndrome  
- Taku Maejima (Hokkaido, Japan)
- 

## Poster 13 "Anal dysfunction"

- P13-1** • Post-operative incontinence after partial external sphincter resection for low rectal cancer  
- Yasue Irei (Kumamoto, Japan)
- P13-2** • LARS after lower rectal cancer surgery  
- Emi Akizuki (Hokkaido, Japan)
- P13-3** • Investigation of local surgical treatment for intestinal stoma prolapse  
- Makoto Kosuge (Tokyo, Japan)
- 

## Poster 14 "IBD"

- P14-1** • High output ileostomy following surgery for ulcerative colitis  
- Yuki Horio (Hyogo, Japan)
- P14-2** • The component changes of lysophospholipid mediators in ulcerative colitis and colitis-associated cancer  
- Hirofumi Sonoda (Tokyo, Japan)
- P14-3** • Conventional side-to-side anastomosis causes intestinal stasis by reduced colonic motor function of the suturing site  
- Toru Kono (Hokkaido, Japan)
- P14-4** • Pyloric stenosis as an initial symptom in Crohn's disease: a case report  
- Tomohiro Kurokawa (Tokyo, Japan)
- P14-5** • A case of Crohn's disease treated with ustekinumab during pregnancy  
- Minako Sako (Tokyo, Japan)

---

## Poster 15 "Others"

- P15-1** • Analysis of the bacterial flora in acute appendicitis - *Kumpei Honjo (Tokyo, Japan)*
- P15-2** • Transurethral balloon catheterization versus suprapubic cystostomy in the perioperative period of laparoscopic colon cancer surgery: a randomized controlled study - *Sayaka Nagao (Tokyo, Japan)*
- P15-3** • Incisional negative pressure wound therapy decrease perineal wound infection after abdomino perineal resection - *Tomoaki Kaneko (Tokyo, Japan)*
- P15-4** • Intraoperative colonoscopy for the assessment in anterior resection for colorectal cancer - *Toshiyuki Enomoto (Tokyo, Japan)*
- P15-5** • A case of de Garengeot hernia with concomitant acute appendicitis - *Tomotaka Kumamoto (Tochigi, Japan)*
- 

## Poster 16 "Western Poster"

- P16-1** • Results of treatment of colorectal cancer complicated by peritoneal carcinomatosis - *Alexei Vladimirovich Shelekhov (Irkutsk, Russia)*
- P16-2** • Anal examination in legal medicine - *Hadjazi Omar, Sidi Bel A bbès (Sidi Bel Abbés, Algeria)*
- P16-3** • Mucopexy-Recto Anal Lifting (MuRAL): a promising solution for managing various anorectal diseases - *Claudio Eduardo Pagano (Milan, Italy)*
- P16-4** • Giant mesenteric cyst masquerading as ureteric colic - *Adam O'Connor (Salford, United Kingdom)*
-

---

**PL-1**    **History of pandemic**

**Streaming  
Room 1**

**Author:** Ho-Kyung Chun

**Organisation:** Department of Surgery, Sungkyunkwan University School of Medicine, Seoul, Korea

---

## Harry Bacon Oration

---

**OR-1**    **The surgeon without his scalpel: life outside the operating room!**

**Streaming  
Room 1**

**Author:** Francis Seow-Choen

**Organisation:** Colorectal Surgery, Seow-Choen Colorectal Centre, Singapore, Singapore

**Abstract:**

Surgeons live because of being able to operate. At work we are god-like with power over life and death. When we cannot operate, we realize we are useless for everything else! What is our greatest regret so far? What will be our greatest regret on our last day on earth? Enjoy today what we are putting off till tomorrow! Aim high, achieve what we have always wanted to! Those things are good but the greatest of these is love! We need to take time to fulfill our dreams, to do what we love, to spend time with those we love, with those who love us. If we aim at nothing we are sure to hit nothing. Are we the person we want to be? Are our values the ones we want to have? Are we on the way to reaching our goals in life? In the midst of our busyness, are we running the right race? What is the prize we are running for?

Prof Francis Seow-Choen qualified with MBBS in 1981 and obtained his FRCSEd in 1987. FAMS 1991. He is or has been on the editorial boards of numerous surgical journals including British Journal of Surgery, Diseases of Colon and Rectum, Colorectal Diseases, Techniques in Coloproctology and many others.

He has had many surgical appointments and visiting professorships and was the Head of the Department of Colorectal Surgery, Singapore General Hospital. Prof Seow-Choen has also been active in non-medical work and was Chairman of Guide Dogs Association of the Blind in Singapore and City College, Singapore as well as being on the board of his local church. Prof Seow-Choen is an avid entomologist and has written at least nine books on insects and described hundreds of new species of stick insects. Even so he continues to be very active in teaching and demonstrating surgery around the world.

---

**Author:** Fumio Konishi

**Organisation:** Department of Surgery, Nerima Hikarigaoka Hospital, Tokyo, Japan

**Abstract:**

The treatment strategy of early stage colorectal cancer has been a controversial issue. When the tumor invades the submucosa (T1 stage) there is a risk of lymph node metastasis. Currently large early stage tumors can safely be resected en block using the techniques of ESD, TEMS or TAMIS. Considering the advances of such techniques and increase in locally resected cases, the indication of local resection without bowel resection for T1 cases should be reevaluated. This should be done carefully without jeopardizing the risk of recurrences. According to the guidelines of JSCCR, indication of bowel resection following local resection of T1 colorectal cancer is as follows. When either one or more of the following four risk factors exist, bowel resection *should be considered*. **A:**  $\geq 1000\mu\text{m}$  invasion in the submucosa.. **B:** Lympho-vascular invasion. **C:** Poor differentiation. **D:** Budding grade 2/3. Recent studies on T1 stage colon cancer reported that " $\geq 1000\mu\text{m}$  invasion in the submucosa" alone might not be appropriate for the indication of bowel resection after local resection, because in such cases risk of lymph node metastasis is very low (1-2%). Therefore for the majority of such cases bowel resection may not be necessary. Additional recent important evidence is the site of the tumor. High risk T1 stage rectal cancer (with one or more of **A-D**) showed poorer outcome in comparing to the high risk T1 stage colon cancer when bowel resection is not carried out. High risk T1 stage rectal cancer should be carefully evaluated for the indication of bowel resection. With the advances in the technique of en block local resection of large early stage tumors, the histological evaluation after local resection has become extremely important to determine the appropriate treatment strategy.

**AFFILIATIONS**

1981-1986 Staff Surgeon, Department of Surgery, University of Tokyo

1988-2000 Associate Professor, Jichi Medical University

2000-2012 Professor and Chair, Department of Surgery, Saitama Medical Center, Jichi Medical University

2011 Sir Alan Park's Visiting Professor (St.Mark's Hospital)

2012-2018 Visiting Expert, Khoo Teck Puat Hospital Singapore

2012- Professor Emeritus, Jichi Medical University

2012- Supervising Director, Nerima Hikarigaoka Hospital Tokyo...

**EDUCATION**

1972 Graduated form The Faculty of Medicine, University of Tokyo

1972-1973 Resident, First Department of Surgery, University of Tokyo

1978-1980 Research Fellow, St.Mark's Hospital London England

1984 Doctor in Medicine (PhD. University of Tokyo)

**RESEARCH**

Endoscopic and laparoscopic treatment of colorectal cancer

Sphincter saving operation for low rectal cancer

Genetic analysis of colorectal cancer and its clinical application

---

## AW-1 Survival Issues in Rectal Cancer

Streaming  
Room 1

**Author:** Kumkum Singh

**Organisation:** Consultant breast and Colorectal Surgeon, Navjeevan Hospital, Ajmer, India

**Abstract:**

Rectal cancer is a common problem across the globe more so in the western world. In spite of regular screening and FOBT testing 20% tumours in rectum are metastatic at presentation in USA.

Treatment options for rectal cancer remain from surgical excision to aggressive CRT in neoadjuvant setting. Surgical excision varies from classical open APR to LAR with TME. Newer approaches have been tried including TaTME, NOSES and robotic rectal resections.

Survival of rectal cancer patients depend upon various factors like age, grade and stage, distance from anal verge, comorbidities, type of surgery and CRT.

I would be discussing various studies and trials relating to survival issues in rectal cancer and how they can be overcome to give a better QOL to the patient.

**CV:**

- Previously **Head of Department and ex-Senior Professor** – Surgery, at J.L.N Medical College & Hospital (Ajmer, India)
  - Served as **Vice chairman** of the Fellowship Board - Association of Colon and Rectal Surgeons of India: 2018-2020.
  - Served as **President**- Association of Colon and Rectal Surgeons of India from 2015-2017.
  - Served as **Head Examiner** for MBBS, MS, RPSC, and the FACRSI examinations.
  - Total Teaching experience of 34 years across diverse areas in Surgery
  - Ex. President of the Rajasthan State of ASI (Association of Surgeons of India): 2010-2011
  - Served as General Council Member for Rajasthan Chapter: 2010-2016
  - Currently serving as Surgeons of India): 2019-2021.
  - **Director of Education (West zone) – ABSI** (Association of Breast Executive Council Member (Association of Breast Surgeons of India, *West Zone*): 2015-2017
  - Authored and published in many Publications and National Journals of Surgery in India
  - Presided as Keynote speaker, and delivered lectures, orations at various conferences in India, China, and Egypt.
  - Awarded ETHICON Visiting Fellowship and ZUVENTUS fellowships in Colorectal surgery
-

**Author:** Ronan O'Connell

**Organisation:** Office of the President, Royal College of Surgeons, Dublin, Ireland

**Abstract:**

In 1782 John Hunter observed that inflammation is an essential component of healing and yet *sui generis* constitutes a threat to the very survival of the organism. Some 150 years later Crohn, Ginsberg and Oppenheimer described regional ileitis. Why disparate areas of the GI tract can be affected in isolation or in combination remains unknown. Genome wide association studies have identified 240 separate genetic loci potentially associated with inflammatory bowel disease however, epigenetic changes in gene function are critical. These mediate disruption of the intestinal barrier, Paneth cell mechanisms, leukocyte migration and cause imbalance between effector and regulatory T cells that result in a persistent transmural inflammatory process. Anastomotic configuration following resection may affect the post-operative microbiota with particular microbial signatures found in relapsing and refractory Crohn's disease. Anastomoses constructed on the anti-mesenteric side of the bowel, the Kano-S technique, are associated with reduced surgical recurrence, questioning the contribution of the mesentery to the pathogenesis. TME at the time of proctectomy for Crohn's disease is important for healing in marked contrast to ulcerative colitis there is no difference between peri-rectal and TME resection.

In our search for answers to the Crohn's enigma we may reflect on TS Eliot  
*'we shall not cease from exploration and the end of all our exploring will be to arrive where we started and know place for the first time'*.

P. Ronan O'Connell is President of the Royal College of Surgeons in Ireland, President-elect of the European Surgical Association and Emeritus Professor of Surgery at University College Dublin, Ireland.

Prof O'Connell graduated from Dublin University in 1979, trained in Ireland and the UK. He completed specialist training in Colon and Rectal Surgery at the Mayo Clinic, Minnesota, USA. He is a Fellow of RCSI, an honorary fellow of RCPS Glas, RCS Edin, RCS Eng, CSHK, ASA, and ASCRS. He is a past president and honorary member of ESCP. He is an elected member of the Society of Pelvic Surgeons, European Surgical Association, International Surgical Group and James IV Society of Surgeons. Prof O'Connell has published widely in the areas of inflammatory bowel disease, pelvic floor physiology and colorectal cancer.

**Author:** Seong Taek Oh

**Organisation:** Dept. of Surgery, Uijeongbu St. Mary's Hosp. Catholic Univ. of Korea, Seoul, Korea

**Abstract:**

Neuroendocrine tumor (NET) is a relatively rare neoplasm from the endocrine and nervous system cells. Its natural history is not well known yet. Usually, it is known as a carcinoid tumor. Most commonly, it occurs in the intestine. NET has been called by various names. In 1907, it was known as benign disease, but later some NETs were named as carcinoid because they had a malignant potential. In 1970, they were called Apudoma by releasing various amines, but were named NET by WHO in 2000. NET secretes various types of peptides and it can be used as a biomarker. Chromogranin A(CgA), NSE, and 5-HIAA are clinically used biomarkers of NET. Moreover, CgA is the most clinically useful biomarker which can reflect tumor progression. The G-I tract is the most common site of the NET's primary locations. And rectum is the most common site of occurrence. Generally, rectal NET does not normally secrete hormones, unlike NETs of other sites even when metastasis was developed. It is usually incidentally found in colonoscopic examinations. Most of the cases are localized at diagnosis. Deep invasion and high mitotic rate are poor prognostic factors.

According to the SEER report, the incidence of rectal NETs is increasing. It accounts for 18% of all NETs and 27% of GI NETs. Europe accounts for 5-14% of all NETs, while Asia accounts for over 60% of GI NETs. They are more common in black and Asian. In Korea, the incidence of rectal NET is also in the rise.

Classification is divided into NET and NEC by WHO classification based on differentiation and grading. NET G1 is when the Ki67 index is less than 3%. NET G2 is when the Ki67 index is between 3 and 20%. Even when the Ki67 index is above 20%, when the tumor has well differentiated feature, it is classified as the NET G3. But, when the tumor has poorly differentiated feature, it is called the NEC G3. And TNM system was classified based on tumor size and invasion grade, lymph node and distant metastasis.

Rectal NETs are usually small, circumscribed, yellowish, submucosal, and of 1 cm or less in diameter. Most of rectal NETs are asymptomatic, but they may cause hematochezia, pain, change in bowel habits, and tenesmus. Metastasis is more frequent when carcinoid syndrome is clinically present. The diagnosis made by colonoscopy and EUS. CT and MRI can be useful. Octreoscan can detect somatostatin receptor positive tumors. Ga PET/CT can show more sensitivity. More than 50% of the cases are found incidentally, and mainly occur in the low rectum. It can be diagnosed morphologically. However, there is lack of uniformity in reporting, such as size, location, and gross description. They can be distinguished from adenomas and hyperplastic polyps by firm, yellowish, submucosal characteristics.

Endoscopic ultrasonography is used to determine the depth of the invasion, which is a very important variable in the case of a local resection. The invasion or non-invasion of the muscular mucosa determines whether endoscopic excision is sufficient or if surgery is necessary in cases of endoscopically resected rectal NETs. It is generally indicated that lesions smaller than 1 cm in diameter can be adequately treated by endoscopic resection in case of negative margins after histological evaluation. Another approach is transanal local excision, as 75% of rectal NETs are located in the mid- and lower thirds of the rectum. Anterior abdominal resection have also been indicated in lesions larger than 2 cm in diameter. Treatment and prognosis depend on tumor size, staging, degree, resectability, and distant metastases. In the case of localized tumors, surgical resection should be performed if the tumor is resectable. For tumors at a more advanced stage, control of carcinoid syndrome symptoms and prudent use of anti-tumor therapy are essential.

The risk of metastasis was less than 3% in 1 cm, 10-15% in 1-2 cm, 60-80% in more than 2 cm. 10% of tumors had 10mm or less nodal metastasis.

Post resection follow up is also depends on size. For 1cm or less tumor with G1 or G2, there is no recommend follow up protocol or data. For G3 tumors, annual follow up similar to adenoma is recommended. For tumors between 1~2cm, annual follow-up is recommend similar to adenomatous polyp regardless of grade. But, tumors larger than 2cm, G1or G2 tumors have annual follow-up, and for G3 tumors follow-up is done every 4 to 6 months by colonoscope or CT.

**Author:** Angelita Habr-Gama<sup>1,2</sup>

**Organisation:** <sup>1</sup>Colorectal, University of São Paulo, São Paulo, Brazil; <sup>2</sup>Angelita and Joaquim Gama Institute, São Paulo, Brazil

**Abstract:**

Neoadjuvant chemoradiation may lead to variable degrees of tumor reduction in size, in depth of penetration and possible perirectal node sterilization. In up to 42% of the cases, complete pathological tumor regression has been reported. Such findings challenged the role of standardized radical resection in all patients with rectal cancer irrespective of tumor response to neoadjuvant therapy.

However, assuring complete tumor regression by clinical examination is not an easy task. The degree of tumor regression may be influenced by several factors such as radiation doses and chemotherapy regimens and by the time of reassessment.

Patients with apparent complete clinical tumor response would be ideal candidates for alternative treatment strategies including no immediate surgery with rigorous close observation as we call Watch and Wait strategy (W&W).

It has been our strategy to assess tumor response at least after 8 weeks from CRT completion including digital rectal examination, rigid proctoscopy and CEA levels in combination with radiological assessment, preferably by MRI, this last one mainly performed to rule out residual extra-luminal disease. Only patients fulfilling these stringent criteria have been considered for this non-operative approach (W&W).

We introduced W&W in 1991 and we have until now almost 800 patients treated and more than 50% were not operated on. Late local relapses occurred in approximately 10% of patients not immediately operated on and in a considerably longer interval when compared to systemic relapses. In addition, most patients with exclusive local relapses were amenable to salvage operation.

Rates of clinical or pathological response may increase using newer drugs and new regimens of CRT and treating patients at earlier baseline disease.

---

---

**JSY1-2 What is the optimal interval for assessment of tumour response / surgery after chemoradiotherapy?**

Streaming  
Room 1

**Author:** Igor V Pravosudov

**Organisation:** Coloproctology, N.N.Petrov National Medical Research Center of Oncology, St. Petersburg, Russia

**Abstract:**

Treatment intervals of 9–12 weeks between surgery and CRT seem to improve the chances of pCR in LARC patients, without an effect on OS. The meta-analysis demonstrated no significant differences in OS, DFS, operative time or the incidence of LR, postoperative complications, anastomotic leakage or sphincter-preserving surgery in patients with locally advanced rectal cancer and a waiting interval of  $\geq 8$  weeks compared to those with a waiting interval of  $< 8$  weeks, or  $> 8$  weeks compared to  $\leq 8$  weeks. Patients undergoing extended CRT with consolidation chemotherapy may develop more substantial reduction in tumour metabolism after 6 weeks from RT completion. This reduction in tumour metabolism may partially explain higher rates of complete regression after this treatment regimen. The risk of developing tumour repopulation and increase in metabolism between 6 and 12 weeks is much lower after consolidation CRT. Therefore, assessment of tumour response may be safely postponed to 12 weeks in patients undergoing extended CRT (using consolidation chemotherapy) strategy. The large majority of patients with a near cCR 8–10 weeks after CRT will evolve into a cCR by extending the observation period after CRT, and can be included in a W&W policy. These patients may have a higher local regrowth rate compared with initially clinical complete responders, but without an apparent impact on OS. All regrowths could be easily salvaged. Therefore, extending the interval in near cCRs in order to increase the number of patients who can benefit from organ preservation appears to be safe.

---

**Author:** Jung-Wook Huh

**Organisation:** Department of Surgery, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea

**Abstract:**

**Background:** Current acceptance of a watch-and-wait (W&W) approach by surgeons in Asia-Pacific countries is unknown. An international survey was performed to determine the current status of W&W on behalf of Asia-Pacific Federation of Coloproctology (APFCP).

**Methods:** Surgeons in APFCP completed an IRB-approved anonymous e-survey and printed letters from China containing 19 questions regarding non-surgical close observation in patients who achieved clinical complete response (cCR) to neoadjuvant chemoradiotherapy (nCRT).

**Results:** Of the 417 responses, 80.8% (n=337) supported the W&W approach, and 65.5% (n=273) have treated patients who achieved cCR after nCRT. Importantly, 78% of participants (n=326) preferred a selective W&W approach in patients with old age and medical co-morbidities who achieved cCR. In regard to restaging methods after nCRT, the majority of respondents base their decision to use W&W based on a combination of MRI (94.5%, n=394). For interval between nCRT completion and tumor response assessment, most participants used 8 weeks (n=154, 36.9%), followed by 6 weeks (n=127, 30.5%) and 4 weeks (n=102, 24.5%). In response to the question of how often do responders follow-up after W&W, the predominant period was every three months (209 participants, 50.1%), followed by every two months (75 participants, 18.0%). If local regrowth was found during follow-up, most participants (79.9%, n=333) recommended radical surgery as an initial management.

**Conclusion:** Watch-and-wait is supported by 80% of Asia-Pacific surgeons and is being practiced in 65%, although heterogeneous hospital or society protocols were observed. These results inform oncologists of future clinical study participation.

---

---

**JSY1-4 The verdict on "watch and wait" strategy in the treatment of rectal cancer**

**Streaming  
Room 1**

**Author:** Nasser Alsanea

**Organisation:** Colon & Rectal Surgery, Alfaisal University, Princess Nourah Bint Abdulrahman University, Riyadh, Saudi Arabia

**Abstract:**

"Watch-and-Wait" approach since its introduction more than 4 decades ago, has gained a controversial place in the treatment of rectal cancer. Between 2004 and 2020, the approach has been adopted widely in the treatment of stage II/III rectal cancer with unfortunately an overall survival lower than that observed in the studies published in the literature. This was compounded by the finding that neither PET-CT nor MRI nor CT can ascertain accurately a complete pathological response. These findings have created a controversy about the use of this approach in daily practice. Definitely, a watch-and-wait approach has a positive side. It has shown repeatedly a better functional outcome compared to the resected group. This is in addition to avoiding a permanent stoma. An evidence-based strategy will be presented including the caveats and shortcomings that must be disclosed to the patient undergoing such an approach.

---

**Author:** Eric Rullier

**Organisation:** Department of colorectal surgery, University of Bordeaux, Pessac, France

**Abstract:**

French surgeons and oncologists conducted 3 trials during the last decade. The GRECCAR 2 included 186 patients with T2T3N0-1 (size  $\leq$  4cm) between 2007 and 2012 and randomized clinical good responders between local excision and TME. In the local excision group, 35% had a completion TME for ypT2-3 tumor. At 2 years, the composite end point (death/recurrence/morbidity/side-effects) showed no difference between the 2 groups: 56% vs. 48% ( $p=0.43$ ). The lack of superiority of local excision was due to the overmorbidity of the patients with completion TME. The 5-year results showed similar local recurrence (7% vs. 7%), metastatic disease (18% vs. 19%), and overall survival (84% vs. 82%) between local excision and TME groups (ns). The conclusion was that a better patient selection omitting completion TME might give an advantage of local excision.

The GRECCAR 12 trial tested intensification treatment in patients with T2T3N0-1 ( $\leq$  4cm) tumors and compared induction chemotherapy (Folfinirox 4 cycles) and chemoradiotherapy vs. chemoradiotherapy with the hypothesis of 80% vs. 60% organ preservation at 1 year. In this study the completion TME was omitted in ypT2/cN0. In June 2020, 191/218 patients were included. Results are attending end of 2021.

The OPERA trial tested intensification of irradiation in T2T3N0-1 (size  $\leq$  5cm) rectal tumors treated by chemoradiotherapy (45Gy) and randomized internal boost (contact-XB 90Gy) vs. external boost (9Gy), with the hypothesis of 40% vs. 20% organ preservation. The study closed prematurely in June 2020 due to early positive results. Overall, preliminary results of GRECCAR 12 and OPERA trials anticipate 70-80% of organ preservation. These good results are due to selection of small low rectal cancers. New protocol will include more advanced tumors.

---

---

**JSY1-6 Non-operative Management of Rectal Cancer following neoadjuvant chemoradiation: Rationale, Clinical Results, Tumor Biology.**

Streaming  
Room 1

**Author:** Philip B. Paty

**Organisation:** Professor of Surgery, Weill Cornell Medical College, Attending Surgeon, Colorectal Surgery Service, Memorial Sloan Kettering Cancer Center, New York, USA

**Abstract:**

Clinical complete response (cCR) of rectal adenocarcinoma to neoadjuvant chemotherapy and radiation can achieve cure, organ preservation, and a high quality of life. The clinical outcomes of 113 patients with cCR managed by Watch and Wait (W+W) at Memorial Sloan Kettering Cancer Center (MSKCC) will be presented. Local regrowths were found and treated by salvage surgery in 22 patients. Pelvic control after pelvic surgery was maintained in 20 of 22 patients (91%). The rectum was preserved in 93 patients (82%). Disease specific survival at 5 years was 90%. A higher rate of distant metastasis was seen among patients with local regrowth than those without local regrowth (36% vs 1%,  $P < .001$ ). We conclude W+W is safe and beneficial to patients although patients with local regrowth do not benefit. The biology of radiation sensitivity and resistance will be discussed.

---

---

**JSY2-1 New technology to reduce symptomatic anastomotic leakage after low anterior resection**

Streaming  
Room 1

**Authors:** Akio Shiomi, Hiroyasu Kagawa, Hitoshi Hino, Shoichi Manabe, Yusuke Yamaoka, Syunichiro Kato, Marie Hanaoka, Kentaro Saito, Kai Chen, Tadahiro Kojima, Chikara Maeda, Syunsuke Kasai, Yusuke Tanaka, Kenji Nanishi

**Organisation:** Division of Colon and Rectal Surgery, Shizuoka Cancer Center Hospital, Shizuoka, Japan

**Abstract:**

Several series have suggested various risk factors for anastomotic leakage(AL) after low anterior resection(LAR), including male sex, obesity, smoking, steroid use, poor bowel preparation, blood transfusion, preoperative radiochemotherapy, location of the tumor, level of anastomosis, and absence of diverting stoma.

From August 2010 to December 2012, we conducted a prospective, multicenter, cohort study to evaluate the risk factor of symptomatic AL after LAR. Data were collected from 40 specialized institutions linked to the Japanese Society for Cancer of the Colon and Rectum (JSCCR).

1014 consecutive patients were registered, of whom 936 patients who underwent LAR were analyzed. The overall rate of symptomatic AL was 12.9%.

Multivariate analysis identified male gender ( $p<0.001$ ; odds ratio [OR], 3.2; 95% confidence interval [CI], 1.8-5.7) and tumor size ( $p<0.001$ ; OR, 1.2; 95% CI, 1.1-1.4) as independent risk factors of symptomatic AL.

After this study was completed, various innovations were introduced in the field of rectal cancer surgery, such as intraoperative ICG angiography, staple line reinforcement, and robotic surgery and so on.

Among these novel technologies, we investigated the effect of robotic electric staplers on symptomatic AL.

We compared 216 patients who underwent robotic LAR using robotic staplers (RS) and 321 patients who underwent robotic LAR using conventional laparoscopic staplers (LS), using the propensity score case matching method.

The rate of symptomatic AL was 6.0% in patients with LS, whereas 1.4% in cases with RS ( $p<0.05$ ). The robotic electric stapler has the possibility to be an innovative technology to reduce the AL after LAR.

---

**Author:** Jun Won Um

**Organisation:** Korea University Ansan Hospital, Seoul, Korea

**Abstract:**

Intraperitoneal and extraperitoneal anastomotic leak after colorectal surgery, is disaster for surgeon can be managed by strategies include observation, bowel rest, percutaneous drainage, colonic stenting, diversion stoma, drainage, or surgery. It is challenging to reduce anastomotic leak after colorectal surgery.

Risk factors for a dehiscence and leak are classified according to the site of the anastomosis as extraperitoneal and intraperitoneal. Major risk factors for 'Extraperitoneal anastomotic leak' are considered such as distance of the anastomosis from the anal verge, anastomotic colonic ischemia and decrease in blood flow, male gender, obesity. Major risk factors for 'Intraperitoneal anastomotic leak' is included American Society of Anesthesiologists score grade III to V, emergent surgery, prolonged operative, hand-sewn ileocolic anastomosis, hand-sewn anastomoses. Controversial in risk factors for protective diverting stoma, neoadjuvant radiation therapy, mechanical bowel preparation with/ without prophylactic antibiotics, postop antibiotics therapy, hand-sewn vs. stapled anastomosis, laparoscopic surgery, drains for rectal anastomosis, fibrin glue, nutrition, perioperative corticosteroids, nonsteroidal anti-inflammatory drugs, enhanced recovery pathways (Intravenous NSAID), and all included surgical technique (surgeon factor).

We will discuss about 'How to overcome and management the risk factors for anastomotic leak in Korea?'

---

---

**JSY2-3 Indocyanine green fluorescence imaging to reduce the risk of anastomotic leakage in colorectal cancer surgery: a propensity score matched cohort study**

Streaming  
Room 1

**Authors:** Jun Watanabe<sup>1</sup>, Yusuke Suwa<sup>1</sup>, Hirokazu Suwa<sup>3</sup>, Atsushi Ishibe<sup>2</sup>, Chikara Kunisaki<sup>1</sup>, Itaru Endo<sup>2</sup>

**Organisation:** <sup>1</sup>Department of Surgery, Gastroenterological Center, Yokohama City University Medical Center, Kanagawa, Japan; <sup>2</sup>Department of Gastrointestinal Surgery, Yokohama City University Graduate School of Medicine; <sup>3</sup>Yokosuka Kyosai Hospital

**Abstract:**

**Background:** Recent studies have shown the potential benefit of indocyanine green fluorescence imaging (ICG-FI) in lowering the anastomotic leakage (AL) rates by changing the surgical plan. The aim of this study was to evaluate the effect of ICG-FI on the AL rates in colorectal cancer surgery.

**Methods:** From January 2011 to December 2017, data from patients who underwent laparoscopic LAR (Lap-LAR) for rectal cancer and colectomy with stapled antiperistaltic side-to-side anastomosis (SSSA) for colon cancer were collected and analyzed. The primary endpoint was the AL rate within 30 days after surgery. The incidence of AL in patients who underwent ICG (ICG-FI group) was compared with that in patients who did not undergo ICG (non-ICG-FI group) using propensity score matching.

**Results:** Data from 550 patients in Lap-LAR and 1034 in Lap-colectomy with SSSA were collected from 3 institutions. A total of 211 patients in Lap-LAR and 370 in Lap-colectomy with SSSA were matched in both groups by the propensity score. In Lap-LAR, ICG-FI shifted the point of the proximal colon transection line toward the oral side in 12 patients (5.7%). The AL rates were 10.4% (22/211) in the non-ICG-FI group and 4.7% (10/211) in the ICG-FI group ( $p=0.042$ ). In Lap-colectomy, ICG-FI change the planned transection point in 12 cases (3.2%). The AL rates were 3.5% (13/370) in the non-ICG-FI group and 0.8% (3/370) in the ICH-FI group ( $p=0.001$ ).

**Conclusions:** ICG-FI significantly reduced the AL rates in laparoscopic colorectal cancer surgery.

---

**Author:** Antonio Longo

**Organisation:** Palermo, Italy

**Abstract:**

The Trans-Anal assisted ARR is a method that offers advantages and makes the procedure safer. Before the abdominal procedure, a CAD is introduced in the anal canal and fixed to the skin as well as in the Stapled Haemorrhoidopexy. This allows the direct vision of the neoplasia and the evaluation of the distance from the anal verge. To perform a purse-string at 1 cm from the distal margin of the neoplasia allows to resect the rectal stump at an oncologically safe distance. Moreover, the purse-string restricts the rectal lumen, therefore achieve a more safe stapled line of the rectal stump becoming it shorter and thick. We prefer to use, even in laparoscopy, a Contour 40 with the concave side facing to the coccyx, this reduce the dog ears.

The introduction of the casing of the stapler is facilitated. Once the anastomosis is performed, pouring water into the rectum, considered that there is the pneumoperitoneum, any leaks are easily and exactly localized (inverse air leak test). Repair any leaks by trans-anal is much easier and effective. Furthermore we always reinforce the dog ears by stitches being it the area of greatest incidence of anastomotic dehiscences. Obviously, when possible, a NOSE is facilitated. In these cases, before extracting the specimen, we carry out a purse-string on the rectal stump. The purse-string performed below the neoplasia will facilitate the traction and extraction of the specimen. In tumors placed at less than 3 cm from the dentate line, the CAD, covering the distal margin of the tumor, would impede the resection and therefore cannot be applied.

**Ultra-low rectal cancer: New technique to avoid colo-anal anastomosis**

The colo-anal anastomosis, resulting from ARR for low and ultra low rectal cancer, often cause symptoms ranging from soiling to fecal incontinence associated to itching and perineal dermatitis. This affects seriously the QoL of the patients. In some cases the definitive colostomy is requested. Our goal has been to study a procedure in order to avoid the low colo-anal anastomosis and, in some cases, the Miles operation. Histological examinations on 35 colo-anal specimens, after ARR for rectal cancer, showed that the tumoral cells infiltration, of the tissue around the macroscopic surface of the cancer, is the same over the whole tumor perimeter (Fig.1). Furthermore, not are pelvic lymph nodes of the anal canal below the distal margin of the mesorectum.

So, the only one necessity to make the intersphincteric dissection due to the need to dissect the smooth anal sphincter in contact with T3 and T4 tumor. Based on these anatomical and oncological considerations, we have developed a new technique, that allows us, to perform an anastomosis at 3 to 5 cm above the dentate line in tumors distant less than 3 cm from the dentate line. We applied this technique in tumors that invade less than 50% of the anal circumference and don't infiltrate the striated sphincter.

**Technique:**

An U shaped incision is performed along the lateral and inferior margins of the neoplasia at 1 cm of distance (Fig.2). The dissection of the tumor and of smooth sphincter is conducted until to the inferior margin of the mesorectum. Overturning of the neoplastic flap in the rectal ampulla and closure of the rectum with a purse-string that include the upper margin of the flap (Fig. 3). Completed the trans-abdominal dissection of the mesorectum, the resection can be performed abdominal or transanally. Almost always is possible to extract the specimen through the anal orifice, in fact the anal canal is more dilatable because longitudinally incised for the excision of the tumor. The proximal dissection of the specimen is circumferential if the excision of the tumor has not exceeded 1/3 of the anal circumference that permit a direct suture of the margins wound (Fig.4), otherwise on the proximal colon is modeled a full-thickness flap which will used to cover a large wound of the rectal stump (Fig.5 ). This flap is sutured manually, while the rest of the circumference with stapler, protecting the flap by a spatula.

Outcomes: From 2012 to 2018 we performed, with this technique 52 patients and the results was compared with 49 cases of conventional surgical approach. The rate of local recurrences, methastasis and post-operative complications not was different. The QoL (quality of life) of the patients underwent to the new approach was significantly high.

**Author:** Khaled Madbouly

**Organisation:** Department of Surgery, University of Alexandria, Alexandria, Egypt

**Abstract:**

Anastomotic leak (AL) constitutes a significant issue in colorectal surgery, and its incidence has remained stable over the last years. The leak rate after low anterior resection is in the region of 10% to 15%. The highest risks of anastomotic leak are in anastomoses less than 5 cm from the anal verge. Preoperative antibiotic therapy should aim at targeting collagenase-inducing pathogens, as identified by the microbiome analysis. Many trials were done to decrease AL by reinforcement of the suture line using different materials without promising results. However, AL is supposed to be reduced by fluorescence angiography, which leads to significant intraoperative changes in surgical strategies. Implementation of fluorescence angiography should be encouraged. Also, recently, intraluminal bypass devices were used to decrease leak with promising results.

---

**Author:** Jin-Tung Liang

**Organisation:** Division of Colorectal Surgery, Department of Surgery, National Taiwan University Hospital and College of Medicine, Taipei, Taiwan

**Abstract:**

**Background:**

Our study aimed to assess the trends in the rate of major anastomotic leakage after colorectal cancer resection in Taiwan among adults, aged 20 years or older, from a nationwide database.

**Methods:**

A retrospective longitudinal study was conducted using Taiwan National Health Insurance Research Database collected during 10 years study period. Patients diagnosed with colorectal cancer and underwent resection and anastomosis procedures were identified using ICD-9-CM diagnostic and procedure codes. Major anastomotic leakage was defined as relaparotomy and diversion stoma within 30 days post-operatively. Annual rates of major anastomotic leakage and other related complications were calculated and their 95% confidence intervals (CI) were estimated.

**Results:**

A total of 51,802 patients, aged 20 years or older, underwent colorectal cancer surgery, were analyzed. Among them, 2,263 (7.94%; 95% CI 7.63%-8.26%) were identified as major anastomotic leakage after colon cancer resection and 2,161 (9.28%; 95% CI 8.91%-9.66%) were identified as major anastomotic leakage after rectal cancer resection. Men had a higher rate of anastomotic leakage in resection and anastomosis of colon cancer (8.79%; 95% CI 8.35%-9.24%) and rectal cancer (10.60%; 95% CI 10.08-11.13%). For those in advanced age  $\geq 80$ , rate of anastomotic leakage and wound dehiscence increased significantly after resection and anastomosis of colon cancer.

**Conclusion:**

This large population-based study shows a substantial rate of major anastomotic leakage after resection of colorectal cancer. With unequivocal definition of major anastomotic leakage, this study provides a benchmark for further study.

**Author:** Jun Seok Park

**Organisation:** Colorectal Cancer Center, Kyungpook National University Medical Center, School of Medicine, Kyungpook National University, Daegu, Korea

**Abstract:**

Patients with low rectal cancer who have enlarged lateral pelvic lymph nodes (LP) are known to have a worse prognosis. There is however uncertainty over what constitutes a lateral pelvic lymph node of clinical significance. As the main modality for the detection of such lymph nodes is magnetic resonance imaging, characteristics of these lateral lymph nodes identified may have prognostic value and assist with guiding treatment. Options to manage such lateral lymph nodes includes neoadjuvant chemoradiotherapy as well as lateral lymph node dissection. Surgery is extensive and may lead to significant morbidity to the patient.

The use of minimally invasive total mesorectal excision (TME) is of growing interest for the treatment of rectal cancer. Several studies have shown that laparoscopic TME is associated with reduced surgical trauma and improved immediate postoperative outcomes, with a consequent reduction in both recovery times and periods of hospitalization. Nonetheless, very few authors have reported their experience with endo-laparoscopic TME with lateral node dissection (LPLD) for advanced rectal cancer. In the narrow pelvis, this technique is difficult to master due in part to its technical limitations such as 2-dimensional views with reduced depth perception and poor ergonomics resulting in fatigue, shaking, and awkward positioning of surgeons.

Recently, robot-assisted surgery has emerged as an alternative minimally-invasive method. Given the difficult location of the LP node and the complex vascular structure, robot-assisted lymph node dissection was considered beneficial for the successful completion of LPLD. Beginning in 2008, a robotic surgical system was introduced into routine clinical practice at our institution. As our combined experience grew, we extended the indication for robotic colorectal surgery to almost all disease stages. Recently, we have begun to selectively perform robotic TME with LPLD for patients diagnosed with LP lymph node metastasis. In the session, we report our initial experience with robotic/laparoscopic TME in conjunction with LPLD for advanced rectal cancer.

---

**Authors:** Yukihide Kanemitsu, Dai Shida, Shunsuke Tsukamoto, Konosuke Moritani

**Organisation:** Department of Colorectal Surgery, National Cancer Center, Tokyo, Japan

**Abstract:**

The JCOG Colorectal Cancer Study group has treated lower rectal cancer as "low- to middle-risk" in the absence of lateral pelvic lymph node (LPLN) metastasis and "high risk" in the case of such metastasis. The JCOG0212 study aimed to determine whether total mesorectal excision (TME) alone was non-inferior to TME with lateral lymph node dissection (LLND), in terms of efficacy, for low-to middle-risk patients with no evidence of LPLN metastases on CT or MRI. A total of 701 patients were randomized to the TME alone group or the TME+LLND group. In the primary analysis, not only the non-inferiority of TME alone to TME+LLND was not demonstrated in RFS as the primary endpoint, but also the inferiority of TME alone to TME + LLND was demonstrated in the local recurrence rate as the secondary endpoint. The main message for the West from this trial is that not "treating" the lateral compartment will result in high local recurrence rates (17.6% 5-year rate).

The JCOG1310 study aimed to evaluate the efficacy of perioperative mFOLFOX6 for "high risk" lower rectal cancer patients with suspected LPLN metastasis compared to postoperative mFOLFOX6. The standard arm was TME with LLND followed by postoperative mFOLFOX6 (12 courses). The experimental arm was 6 courses of mFOLFOX6 before and 6 courses after TME with LLND. Although this study early terminated due to slow accrual, perioperative mFOLFOX6 tended to be a better treatment in terms of OS than post-operative mFOLFOX6.

In the next ten years, a better agreement may be reached on the prognostic significance of LPLN, imaging criteria on what should be considered as suspicious LPLN metastasis, whether LLND should be offered routinely or selectively, better definition on the interface between LLND and multidisciplinary treatment.

---

---

**JSY3-3** Current consensus of lateral pelvic lymph node dissection in Korea

Streaming  
Room 1

**Author:** Yoon Suk Lee<sup>1,2</sup>

**Organisation:** <sup>1</sup>Seoul St. Mary's Hospital, Seoul, Korea; <sup>2</sup>The Catholic University, Seoul, Korea

**Abstract:**  
TBD

---

---

**JSY3-4 Neoadjuvant chemotherapy, chemoradiotherapy and selective lateral node dissection through minimally invasive approach for poor-risk rectal cancer**

Streaming  
Room 1

**Authors:** Tsuyoshi Konishi, Takashi Akiyoshi, Satoshi Nagayama, Yosuke Fukunaga

**Organisation:** Department of Gastroenterological Surgery, Cancer Institute Hospital of the Japanese Foundation for Cancer Research, Tokyo, Japan

**Abstract:**

In rectal cancer with positive lateral nodes, neoadjuvant chemoradiotherapy (nCRT) without lateral node dissection results in high local recurrence. Adding neoadjuvant chemotherapy has been explored as a novel option to improve oncological outcomes. We conducted a prospective phase II trial that evaluated safety and efficacy of induction chemotherapy followed by nCRT in poor-risk rectal cancer at a single cancer center in Japan. Patients received 6 course of mFOLFOX with bevacizumab followed by S1-based nCRT (50.4Gy). Surgery was conducted through a laparoscopic approach, and lateral node dissection was selectively added if patients had initially enlarged lateral nodes. A total of 76 patients were eligible for the study, including 54 patients (71%) with clinically positive lateral nodes. Seventy-one patients underwent surgery, and five underwent nonoperative management after cCR. A clinical and/or pathological CR rate was 34.2%. All surgical procedures were successfully performed thorough a laparoscopic approach without conversion, including lateral node dissection (n=50) and combined resection of adjacent structures (n=18). Among 71 patients who had surgery, 50 had clinically positive lateral nodes, but only 9 had pathologically positive nodes. Clavien-Dindo grade 3-4 complications occurred in 15 patients (21%) without mortality. In conclusion, modern multidisciplinary approach consisting of neoadjuvant chemotherapy, nCRT and selective lateral node dissection through minimally invasive approach achieved favorable oncologic outcomes with good compliance and tolerable postoperative complications. More evidence is needed to identify which patients benefit from lateral node dissection in the era of modern neoadjuvant treatment.

---

---

**JSY3-5 Lateral node dissection in rectal cancer post-neoadjuvant therapy – what, when, why, and by whom?**

Streaming  
Room 1

**Author:** Desmond C. Winter

**Organisation:** St Vincent's University Hospital, Dublin, Ireland

**Abstract:**

It has taken many decades for there to be a meeting of the East and West on how to manage pelvic side wall lymph nodes in rectal cancer. The assumed and historical divide was thought to be Oriental surgical excision and Occidental chemoradiotherapy. It is better to see this as a choice of approaches, including use of more than one alone, rather than an 'either / or' binary decision. It is becoming apparent that chemoradiotherapy is not enough to sterilise the lymph nodes in some patients. Meanwhile the operation time and potential morbidity of pelvic side wall dissection make some surgeons reluctant to do it routinely. That leaves the question: where are the middle-ground agreements? A suggested approach to locally advanced rectal cancer with suspicious pelvic side wall nodes is chemoradiotherapy then, where those nodes are persistently abnormal, a lateral lymphadenectomy at the time of total mesorectal excision. Whether routine side wall lymphadenectomy is better than routine neoadjuvant radiotherapy is the real question. Longer operative time versus longer preoperative wait? Morbidity of more complex surgery or morbidity of radiotherapy? Perhaps superiority is not the correct question and patient choice is the correct answer.

---

---

**JSY3-6 What is the optimal area of lateral lymph node dissection for low rectal cancer?**

Streaming  
Room 1

**Authors:** Keiichi Takahashi, Tatsuro Yamaguchi, Sakiko Nakamori, Tomoyuki Ono, Souichiro Natsume, Misato Takao, Daisuke Nakano

**Organisation:** Department of Surgery, TokyoMetropolitan Cancer and Infectious Diseases Center Komagome Hospital, Tokyo, Japan

**Abstract:**

[Purpose and Methods] In the era of neoadjuvant therapy lateral lymph node dissection is sometimes omitted or modified at the specific pelvic area. The optimal area of lateral lymph node dissection is unclear. We usually carry out all lateral lymph node dissection from aortic bifurcation bilaterally without neoadjuvant treatment for low rectal cancer. We analyzed the actual state of metastatic lateral lymph nodes clinicopathologically. [Results] We curatively operated 418 cases of low rectal cancer with lateral lymph node dissection, and 53 cases had metastatic lateral lymph nodes. The rate of metastatic lateral lymph node was 12.7% (53 cases/418 cases). The metastatic rate in all sites was 56.6% (30/53) for obturator area (No283), 30.2% (16/53) for distal portion of internal iliac area (No263D) and 20.8% (11/53) for proximal portion of internal iliac area (No263P). These sites were main metastatic sites, but the metastatic rate outside of these sites (common iliac (No273) and external iliac (No293) area) were 15.1% (8/53). The 5-year survival rate was 41.6% for the cases of less than 4 metastatic lateral lymph nodes and 12.5% for more than 3 metastatic lateral lymph nodes. There was statistically significant difference between these two groups ( $p < 0.05$ ). But the 5-year survival rate of the following positive metastatic groups was no significant difference; 41.8% for only No 283 or No263 group and 12.5% for the group outside of these areas, 40.5% for unilateral group and 22.2% for bilateral group. [Conclusions] It is necessary all lateral lymph node dissection from aortic bifurcation bilaterally for low rectal cancer with metastatic lateral lymph nodes.

---

**Authors:** Keiji Koda, Chihiro Kosugi, Akihiro Usui, Takashi Murakami, Hiroyuki Nojima, Kiyohiko Shuto, Masato Yamazaki, Hiroaki Shimizu

**Organisation:** Department of Surgery, Teikyo University Chiba Medical Hospital, Chiba, Japan

**Abstract:**

**Purpose**

We introduced a novel method for abscess drainage of diverticulosis using colonic endoscopy in 2018. This time, we discuss the appropriate indications of this method. We also introduce a laparoscopic surgical procedure for the treatment of colo-vesical or colo-vaginal fistulas.

**Methods**

For endoscopic abscess drainage, an ERCP catheter is inserted into the abscess cavity for drainage and lavage. Laparoscopic surgery for colo-vesical/ -vaginal fistulas included colectomy and division of the fistula at the colonic site.

**Results**

Endoscopic abscess drainage was carried out in 14 patients who were not cured by conservative antibiotic treatment, between 2009 and 2019. The size of the abscess ranged from 4–7 cm, and the location of the diverticulitis was right side colon in 11 and the left side colon in 3. The interval from disease onset to drainage ranged from 2–11 days (median, 5 days). Intraluminal drainage was successful in 12 cases, all of who were cured with no recurrent disease. Surgical resection was performed in one case and the other was cured by long-term (30 days) conservative therapy. The median hospital stay was 8 days. Regarding laparoscopic fistula surgery (n=14, 2015–2020), the fistula was divided using LCS[Sf1] in 12 and linear staplers in 2. Postoperative infections included one case of anastomotic leakage and two wound infections. There were two postoperative ileus.

**Conclusions**

Endoscopic intraluminal drainage/lavage is an easy, non-invasive, and effective for the treatment of abscessed of colonic diverticulitis. Laparoscopic colectomy with fistula division resulted in satisfactory outcomes in patients with colo-vesical or colo-vaginal fistulas.

[Sf1]Please define this abbreviation/.

**Author:** Philip Fillor Caushaj<sup>1,2</sup>

**Organisation:** <sup>1</sup>Department of Surgery, University of Connecticut; <sup>2</sup>Hartford Hospital, Hartford, CT, USA

**Abstract:**

Diverticulitis is a common condition in industrialized countries and an important cause of hospital admissions. Its growing trend is a challenge for the surgeons who perform emergency surgery, because approximately 15-25% of the patients will require surgery, being the surgical management of complicated acute diverticulitis controversial. The past decade has seen a paradigm shift in the treatment of sigmoid diverticulitis based on new epidemiological studies and refinement of surgical techniques that has produced a reassessment of our guidelines. CT imaging and sepsis scores allows to stratify the patients and better define the therapeutic strategies in each case. Special considerations must also be made for patients with a high surgical risk, such as immunosuppressed ones. The recommendations to perform surgery after two episodes of uncomplicated diverticulitis have been re-evaluated and the belief that new episodes may be complicated and associated with high morbidity and mortality has been rejected, since the clinical manifestations of this disease are usually defined by the first attack. In complicated cases, more patients can be treated with resection and primary anastomosis with or without an associated stoma, whose reversal rate is much higher than that of a Hartmann's procedure. Likewise, laparoscopic surgery performing a peritoneal lavage and drainage without associated resection may have an increasing role in the management of these patients, although with controversial results, having become laparoscopic colon resection the approach of choice for the treatment of this pathology in elective settings.

---

**Authors:** Giovanni Brandimarte<sup>1</sup>, Walter Elisei<sup>2</sup>, Francesco Di Mario<sup>3</sup>, Giuseppina Piera Lecca<sup>1</sup>, Antonio Tursi<sup>4</sup>

**Organisation:** <sup>1</sup>Internal Medicine and Gastroenterology, "Cristo Re" Hospital, Roma, Italy; <sup>2</sup>Unit of Gastroenterology and Endoscopy - San Camillo Forlanini Hospital, Rome, Italy; <sup>3</sup>Department of Medicine and Surgery, Gastroenterology Unit, University of Parma, Parma, Italy; <sup>4</sup>Territorial Gastroenterology Service, ASL BAT, Andria, Italy

**Abstract:**

Diverticulosis of the colon is the most frequent anatomical alteration detected during colonoscopy. The endoscopic classification "DICA" (Diverticular Inflammation and Complication Assessment) has been recently developed in order to have an objective endoscopic description of the colon harbouring diverticula. This classification takes into account four main items and several subitems: the extension of diverticulosis (left or right), the number of diverticula per each colonic region ( $\leq 15$  or  $\geq 15$  diverticula), the presence of inflammation (oedema, hyperaemia, erosions, SCAD), the presence of complications (rigidity, stenosis, pus and bleeding). Each of these items and subitems has a numerical score, and the sum of the scores lead to three different DICA scores: DICA 1 (up to 3 points), DICA 2 (from 4 to 7 points), and DICA 3 (over 7 points). This classification seems to have a predictive value on the outcome of Diverticular Disease in terms of AD occurrence/recurrence and risk of surgery, founding that DICA 3 patients were at higher risk of Acute Diverticulitis occurrence/recurrence compared with DICA 2 or DICA 1 patients. The same risk was recognized in assessing the surgical risk: DICA 3 patients were at higher risk of surgery linked to the disease than DICA 2 or DICA 1 patients. A recent study in real life confirms the significant agreement for this classification in clinical settings, becoming therefore the standard reference for the studies assessing Diverticular Disease by an endoscopic point of view. A prospective, international study is currently ongoing: this study will take three years, and the results at two year of follow-up seems to confirm the results of the retrospective study.

---

---

**JSY4-4 Paradigm Shift: new trends in the management of diverticulitis**

**Streaming  
Room 1**

**Author:** Mehmet Ayhan Kuzu

**Organisation:** Department of General Surgery, Ankara University, Ankara, Turkey

**Abstract:**

Diverticulosis and diverticular disease of the colon are common conditions around the world. The incidence and prevalence of these diseases are increasing and becoming significant for health systems. The risk of developing diverticulitis among individuals with diverticulosis is lower than 10 to 25%. A growing body of knowledge is shifting the paradigm of the treatment of diverticulitis. Controversies exist regarding the use of antimicrobial therapy, laparoscopic lavage, and the surgical management of acute diverticulitis. This presentation will cover the recent advances in the management of diverticulitis.

---

---

**JSY4-5 Natural history of sigmoid diverticulitis: 10-year results of a prospective observational monocentric study**

Streaming  
Room 1

**Authors:** Pascal Alain Gervaz, Xavier Delgadillo

**Organisation:** Medical School, University of Geneva, Geneva, Switzerland

**Abstract:**

**Background:** The natural history of sigmoid diverticulitis has been inferred from population-based or retrospective studies. This study assessed the risk of a recurrent attack following the first episode of uncomplicated diverticulitis.

**Methods:** Patients admitted between January 2007 and December 2011 with a first episode of uncomplicated sigmoid diverticulitis confirmed on computed tomography were enrolled in this prospective study. After successful medical management of the first episode, follow-up was conducted through yearly telephone interviews. Cox proportional hazards regression was performed to model the impact of various parameters on eventual recurrences and complications.

**Results:** During a median follow-up of 24 (range 3–63) months, 46 (16.4 per cent) of 280 patients experienced a second episode of diverticulitis. 1- and 3-year recurrence rates were 20% and 31%, respectively. Six patients (2.1 per cent) subsequently developed complicated diverticulitis and four (1.4 per cent) underwent emergency surgery for peritonitis. In multivariable analysis, a raised serum level of C-reactive protein (over 240 mg/l) during the first attack was associated with early recurrence (odds ratio 4.95, 95 per cent confidence interval 1.95 to 12.27;  $P = 0.001$ ).

**Conclusion:** Uncomplicated sigmoid diverticulitis follows a benign course with few recurrences and little need for emergency surgery. Registration number: NCT01015378 (<http://www.clinicaltrials.gov>).

---

---

**JSY4-6 Personalized treatment in diverticular disease**

**Streaming  
Room 1**

**Author:** Ismail Gogenur

**Organisation:** Surgery, Zealand University Hospital, Koege, Denmark

**Abstract:**

In this oral presentation the evidence to support an individualized approach including the surgical approach based on intraoperative findings will be described in detail.

Selecting the surgical approach may not just be based on the findings during surgery but also patient related genotypical and immune phenotypical profile.

Data to support this approach including conferable evidence will be presented and discussed.

---

**Authors:** Fumio Ishida, Masashi Misawa, Yuichi Mori, Shin-ei Kudo

**Organisation:** Digestive Disease Center, Showa University, Northern Yokohama Hospital, Kanagawa, Japan

**Abstract:**

Application of artificial intelligence (AI) in medicine is now attracting substantial attention. In the field of gastrointestinal endoscopy, computer-aided diagnosis (CAD) for colonoscopy is the most investigated area. Real-time use of artificial intelligence in identification of diminutive polyps during colonoscopy and real time diagnosis of colorectal cancer by using AI with ultra magnifying endoscopy (Endocytoscopy) have been achieved.

With the emergence of deep learning which has a potential to exceed human performance, research on AI-assisted polyp detection system has been promoted. A meta-analysis shows that such AI systems significantly increase the adenoma detection rate which is recognized as a quality indicator of colonoscopy. Furthermore, some regulatory-approved AI-assisted polyp detection systems are available in EU and Japan. Similarly, research on AI-assisted characterization seems to provide accurate optical biopsy. Prospective studies of in vivo use of AI-assisted characterization have been reported by several groups, some of which showed a >90% negative predictive value for differentiating diminutive ( $\leq 5$  mm) rectosigmoid adenomas, which exceeded the threshold for optical biopsy.

We introduce the potential of using AI for colonoscopy and describe the most recent conditions for regulatory approval for artificial intelligence-assisted medical devices.

<https://showa-ddc.com/eng/>

Reference articles

1. Real-Time Use of Artificial Intelligence in Identification of Diminutive Polyps During Colonoscopy: A Prospective Study. <https://pubmed.ncbi.nlm.nih.gov/30105375/>
2. Diagnosis of Colorectal Lesions with a Novel Endocytoscopic Classification - A Pilot Study. <https://pubmed.ncbi.nlm.nih.gov/21837586/>

---

**JSY5-2 Colorectal surgeon's practical approach to AI into clinical practice**

**Streaming  
Room 1**

**Author:** Daeyoun David Won<sup>1</sup>, Jongkyun Lee<sup>1</sup>, Seung-min Park<sup>2</sup>

**Organisation:** <sup>1</sup>Department of Surgery, Seoul Songdo Colorectal Hospital, Seoul, Korea;  
<sup>2</sup>Department of Radiology, Stanford

**Abstract:**

Objective: In this presentation, we will discuss about the following.

- 1) General concepts of AI
  - 2) Types of AI data which are available to us
  - 3) Colorectal surgeon's approach to AI projects
  - 4) How to collaborate with AI specialists
-

---

**JSY5-3 Development of an artificial intelligence navigation system to indicate anatomical landmarks during laparoscopic surgery for colorectal cancer**

Streaming  
Room 1

**Authors:** Masafumi Inomata, Tsuyoshi Etoh, Hidefumi Shiroshita, Tomonori Akagi, Yohei Kono

**Organisation:** Department of Gastroenterological and Pediatric Surgery, Oita University Faculty of Medicine, Oita, Japan

**Abstract:**

**Background:** The occurrence of intraoperative organ injury during laparoscopic surgery is an important medical issue. Expert surgeons prevent intraoperative injury by identifying anatomical landmarks. The present study aimed to develop a system that outlines these landmarks on endoscopic images in real time.

**Methods:** An intraoperative landmark indication system was constructed using YOLOv3, which is an algorithm for object detection based on deep learning. The training datasets comprised surgical images of the region of laparoscopic cholecystectomy (LC), gastrectomy (LAG), and low anterior resection (LAR). The YOLOv3 learning model with the training datasets was applied to surgical videos that were not used in training, to evaluate the estimation accuracy of the system to identify landmarks, such as proper rectal fascia, hypogastric nerve, subperitoneal fascia for medial approach, IMA, superior hypogastric nerve, lumbar splanchnic nerve for central vascular ligation (CVL), proper rectal fascia, subperitoneal fascia, Denonvilliers fascia, pelvic plexus for rectal dissection in LAR.

**Results:** The YOLOv3 learning model was quantitatively and subjectively evaluated in this study. The average precision values for each landmark were estimated. The two expert surgeons involved in the annotation confirmed consensus regarding valid indications for each landmark in surgical videos. In the verification experiment, the use of the intraoperative landmark indication system made the surgical team more aware of the landmarks.

**Conclusions:** Intraoperative landmark indication successfully identified landmarks during each approaches. The novel system proposed in the present study may prevent intraoperative injury during laparoscopic surgery in clinical practice.

---

**Author:** Ho-Kyung Chun

**Organisation:** Department of Surgery, Sungkyunkwan University School of Medicine, Seoul, Korea

**Abstract:**

Artificial Intelligence (AI) is gradually changing the practice of surgery with the advanced technological development of imaging, navigation and robotic intervention.

The paradigm of surgery has been changed from classical open to laparoscopic and finally to robot assisted or computer assisted surgery.

Robots enabled with artificial intelligence are increasingly assisting surgical procedures to help reduce surgeon variations that could affect patient recovery. Following the successful outcome of AI-assisted surgery, experts said they expect to see more robot-aided procedures in the next few years.

It is reasonable to expect that future surgical robots would be able to perceive and understand complicated surroundings, conduct real-time decision making and perform desired tasks with increased precision, safety, and efficiency.

The conventional view of the surgeon–robot–patient axis has to be changed. The future patient may be under the joint custodianship of both human surgeon and robot, working cooperatively. This will raise new regulatory, ethical and legal questions, particularly with regard to accountability.

---

**Authors:** Koji Okabayashi, Kohei Shigeta, Ryo Seishima, Shinpei Matsui, Masayoshi Monno, Shodai Mizuno, Yuko Kitagawa

**Organisation:** Department of Surgery, Keio University School of Medicine, Tokyo, Japan

**Abstract:**

**Background** Recent advances in artificial intelligence (AI) technology are remarkable in medical researches. However, there is great difficulty for medical doctors to handle with software program of AI technology. We would like to introduce our initial experience of two medical researches using AI technology and discuss about its significance in colorectal daily clinical practice.

**Methods** AI technology were introduced to two clinical issues including the indication of adjuvant chemotherapy in stage II/III colorectal cancer patients and the prediction of pouchitis in ulcerative colitis. Random forest model was used to estimate the indication of adjuvant chemotherapy, and deep learning model was used to predict pouchitis. Both of analyses were conducted by supervised learning model.

**Results** In the indication of adjuvant chemotherapy, our random forest model clearly discriminated whether patients improved their recurrence free survival by receiving adjuvant chemotherapy. Also the number of lymph node metastasis is the most important factor. In the prediction of developing pouchitis, all collected images were categorized into two groups; with pouchitis (33% (n=280)) or without it (67% (n=580)). In the DL model, the average of training accuracy was 99.85% and the average of validation accuracy was 99.53%.

**Conclusions** Although the handling of software is still complicated, it was considered possible for clinicians to introduce AI into colorectal daily clinical practice. In the future, it is thought that clinical research will be greatly accelerated by establishing an environment where many doctors can easily carry out research on various topics using AI.

---

**Authors:** Kenta Kasahara<sup>1</sup>, Kenji Katsumata<sup>1</sup>, Tetsuo Ishizaki<sup>1</sup>, Masanobu Enomoto<sup>1</sup>, Junichi Mazaki<sup>1</sup>, Takahiro Wada<sup>1</sup>, Naoto Okazaki<sup>1</sup>, Tomoya Tago<sup>1</sup>, Akira Saito<sup>2</sup>, Masahiko Kuroda<sup>2</sup>, Jun Matsubayashi<sup>3</sup>

**Organisation:** <sup>1</sup>Department of Digestive and Pediatric surgery, Tokyo Medical University, Tokyo, Japan ; <sup>2</sup>Department of Molecular Pathology, Tokyo Medical University; <sup>3</sup>Department of Anatomic Pathology, Tokyo Medical University

**Abstract:**

**[Background]** Treatment strategies for T1b colorectal cancer with submucosal invasion is considered based on the risk of lymph node metastasis. We used artificial intelligence (AI) to identify lymph node metastasis risk and in several fields of colorectal cancer treatment strategies. **[Patients]** In total, 146 cases of colorectal cancer in stage T1b who underwent surgery at our hospital and Tokyo Medical University Hachioji Medical Center between 1986 and 2018. **[Method]** All patients were scored and stratified into the following groups based on the presence of risk factors of lymph node metastasis (ly + / v + / Budding  $\geq$  2) except the depth of invasion in T1b colorectal cancer: no risk/risk 1/risk 2/risk 3/lymph node metastasis = Groups 0/1/2/3/4, respectively. Samples region of interest (ROI) analysis was performed for each case using the AI method. The learning model that we created was used for verification of unknown cases. **[Result]** In total, 577 ROIs and 890636 nuclei were extracted from 146 cases. The ROI accuracy in all five groups and in three groups (Group 0/ 1-3/ 4) was approximately 90%. In repeat analysis of all the cases in the three groups conducted using the SVM learning model, the ROI accuracy increased to 99.1%. Moreover, when the biopsy samples and surgical samples were analyzed for discrimination, the ROI showed an accuracy of 90%. AI analysis was performed using biopsy specimens alone; 25% of cases in each group were selected as SVM model test and validation cases, and data of the rest were used as the training data set for SVM model construction. The ROI accuracy was 67%, and the diagnostic accuracy was 68%. The sensitivity of our test is 92.3% and the specificity is 72.2%. **[Conclusion]** AI analysis can improve treatment strategy for colorectal cancer.

---

**SY1-1 Clinical benefits of TaTME for rectal cancer**

Streaming  
Room 1

**Authors:** Masaaki Ito, Takeshi Sasaki, Yuji Nishizawa, Yuichiro Tsukada, Koji Ikeda, Hiro Hasegawa, Koichi Teramura

**Organisation:** Department of Colorectal surgery, National Cancer Center Hospital East, Chiba, Japan

**Abstract:**

Trans-anal TME for rectal cancer is to be discussed not only in terms of oncological issues but also in postoperative functional preservation.

In the first place, we can intraoperatively select appropriate dissection planes according to the site of the tumor or the depth of invasion. If primary T3 tumor is located in lateral or posterior side of pelvic space, we can change the dissection plane deeper by entering the plane below the endo-pelvic fascia to secure enough CRM; at least more than 1 mm. This procedure could provide less CRM positive rate for advanced low rectal cancer.

Secondary, we can clearly identify neuro-vascular bundle nerve and sacral nerves from the anal side. Particularly, 4th sacral nerve is the important landmark to avoid an injury of autonomic nerve systems. Such a recognition of the nerves from below might lead better urinary and sexual function after the surgery.

Another possible strength in TaTME is two-team operation simultaneously performed by abdominal surgical team and another perineal team. It can give us more anatomical information from both side. Therefore, two-teams TaTME could reduce operative time almost by half compared with conventional laparoscopic TME.

Recent report based on the international registry of TaTME revealed that two-third of the patients received stapler anastomosis with double purse-string technique, which had no dog-ear formation, no multiple firings of stapler and no need of distal mobilization of the rectum. It could also improve anastomotic complication rate compared with conventional double-stapling anastomosis.

---

**Author:** Suk-Hwan Lee<sup>1,2</sup>

**Organisation:** <sup>1</sup>Department of Surgery, Kyung Hee University; <sup>2</sup>Kyung Hee University Hospital at Gangdong, Seoul, Korea

**Abstract:**

The taTME was introduced to overcome difficult TME surgery such as obese patients, very low located rectal cancer, and a narrow pelvis with relatively large tumors in the mid-rectum.

At first, there were many concerns about the inadvertent entry into the urogenital organs. However, with the development of the teaching and training program, now we can understand the anatomy more precisely.

This procedure has its own technical advantage, such as achieving a more precise and longer distal margin of the specimen. A shorter operation time compares with the laparoscopic or robotic TME is also reported. But a shorter duration of operation time comes from the two-team approach, but it required more laparoscopic instruments and human resources.

Many taTME and robotic TME studies reporting quality of TME specimens showed improved quality compare with the laparoscopic TME. This result may be biased from the gaining of surgeons' experiences or any technical merits of the procedures. Because the taTME is the kind of the oncologic procedures, the primary outcome should be a local or systemic recurrence or DFS rather than the quality of TME specimen.

Recently, Norwegian moratorium paper gained some attention to the procedures which reported 9.5% of local recurrence, and the pattern of local recurrence is somewhat different from other series.

We still do not have solid evidence of the noninferiority of the taTME procedure. We are waiting for the results of a good quality prospective clinical trial now.

The taTME procedure for rectal cancer management has some advantages and also disadvantages. The basic principle of rectal cancer surgery is still TME, whether the approach may vary.

---

---

**SY1-3 Controversies & critical appraisal of taTME****Streaming  
Room 1****Author:** Joseph William Nunoo-Mensah<sup>1,2</sup>**Organisation:** <sup>1</sup>Department of Colorectal Surgery, King's College Hospital, London, United Kingdom; <sup>2</sup>Department of Colorectal Surgery, Cleveland Clinic London, London, United Kingdom**Abstract:**

The gold standard for curative treatment of locally advanced rectal cancer involves radical resection with a TME. TME is the most effective treatment strategy to reduce local recurrence and improve survival outcomes. Since 1991, alternative minimally invasive approaches such as laparoscopy, robotic, and most recently transanal TME (taTME) have all been demonstrated as alternatives to laparotomy. Since its introduction in 2010 there has been several publications on taTME and most short-term results have demonstrated equivalence or superiority when compared to standard open or laparoscopic surgery. However, taTME has its detractors. The operative technique is not standardized and involves dissecting from within the rectum outwards into the mesorectum with the theoretical risk of contaminating this space and the peritoneal cavity with bacteria or worse malignant cells. Urethral injury is one possible complication, but anastomotic leaks, bowel injuries, urinary dysfunctions and bleeding have all been described. There is a concern as to whether taTME may worsen low anterior resection syndrome but there is a dearth of studies about functional outcome and the quality of life impact of this approach. Studies of long-term superiority (or at least non-inferiority) compared to the usual “top-down” laparoscopic approach are sparse and for now we await the results of multicenter randomized prospective trials and the long-term results of the various registries before this method of rectal cancer resection can be universally recommended. This 10-minute lecture provides a critical appraisal and discusses the controversies of taTME.

---

---

**SY1-4 The status of taTME in China and the TaLaR trial**

Streaming  
Room 1

**Author:** Liang Kang

**Organisation:** Department of Colorectal Surgery , the Sixth Affiliated Hospital of Sun Yat-sen University, Guangzhou, China

**Abstract:**

**Objective:** This study aimed to confirm the short-term outcomes and oncological outcomes after transanal total mesorectal excision for mid-low rectal cancer.

**Setting:** A retrospective multicenter observational study based on data from 37 Chinese independent tertiary referral centers.

**Patient:** All patients who underwent transanal total mesorectal excision and agreed to participate in relative studies were reviewed. Inclusion criteria included: (a) histologically proven rectal adenocarcinoma; (b) a distance between the tumor and the anal verge under 10 cm; (c) T1-T4NXM0; (d) no contraindications to surgery. Patients with recurrent cancer, T4b tumor invading adjacent organs, and M1 stage cancer, as well as emergency surgery cases, were excluded.

**Main Outcomes and Measures:** The primary endpoints were long-term outcomes including LR and survival status. The secondary endpoints included complications and histopathological features of the resected specimen.

**Results:** A total of 1451 cases were included in this study. 8.8% of patients underwent anastomotic leakage. 89.9% of patients achieved complete mesorectal resection, 99.5% of patients had a negative distal resection margin, and 99.2% of patients obtained a negative circumferential resection margin. After a median follow-up time (12.5 months), 37 patients developed local recurrence, and 63 cases had distal metastasis. Besides, the 3-years disease-free survival rate is 87.9%.

**Conclusions:** This study shows that transanal total mesorectal excision can provide good short-term outcomes and resected specimens. More importantly, it also shows that the method can provide good oncological results.

**TaLaR trial:** We enrolled the first patient in April 2016, and 780 patients were enrolled by August 2020.

---

---

**SY1-5 TaTME is beneficial for rectal cancer surgery?: From a viewpoint of a single port laparoscopic surgeon**

Streaming  
Room 1

**Author:** Seong Hyeon Yun

**Organisation:** Department of Surgery, Sungkyunkwan University School of Medicine, Samsung Medical Center, Seoul, Korea

**Abstract:**

Because of anatomical barriers such as deep narrow pelvis, similar limitations of top-down method of total mesorectal excision even with the laparoscopic approach. The reason is simple: same limitations against qualified surgery such as deep narrow pelvis, bulky tumors, threatened margin or vital structures still exist regardless of the surgical method. Indeed, there is still a degree of uncertainty, notably regarding the risk of incomplete TME specimen, positive margins, and worse long-term oncological outcomes. To fuel the debate further, other large randomized series did not show inferior pathological or oncological outcomes following laparoscopic LAR. Meanwhile, even the amazing introduction of robotics has not significantly improved the outcomes. To overcome the challenges posed by abdominal TME surgery, a transanal approach has been developed over the last decade, with promising early outcomes. However, TaTME is still in its infancy and definitively requires more robust data and longer follow up. Since the first description of TaTME, several relatively large series have been published, showing not only the feasibility of the approach, but also its safety even in challenging patients. TaTME is associated with a low conversion rate, low R1 rate, and an excellent completeness of TME. At current state, TaTME can be considered as a salvage procedure before open conversion from the conventional TME. Unfortunately, several reports of early recurrences after TaTME have been published recently, therefore, special awareness to this new technique should be considered. It is probably attributed to lack of standardization of the new techniques as well of lack of proctorships. We have to wait for the result of the randomized clinical trials comparing conventional and taTME.

---

---

**SY1-6 Pelvic Anatomy for taTME**

**Streaming  
Room 1**

**Author:** Sherief Shawki

**Organisation:** Colon and Rectal Surgery, Mayo Clinic, Rochester, MN, USA

**Abstract:**

taTME is a platform using minimal invasive properties ideally to facilitate dissection in the most distal and challenging part of the pelvic cavity. It is mainly utilized in mid and low rectal cancer tumors in order to achieve good oncologic surgical outcomes. taTME is not a replacement, rather, it is a complimentary tool to accomplish safe and appropriate proctectomy regardless of the approach implemented. However, it is an intricate procedure and does not tolerate any margin of mistakes in this part of the pelvis. The compact nature of multitude of pelvic fascial layers, proximity of nearby organs and easily drifting away from the correct planes in this is unusual view can lead to disastrous intra-operative adverse events. These complications are mainly due to dissection inside or outside the TME plane. The former will result in poor specimen with jeopardize of oncologic safety and catastrophic early recurrence defeating its purpose or injuring to near by organ. An important foundation of proper and safe dissection is understanding surgical anatomy specifically of the most distal pelvis where the initial steps of taTME takes place. This is important to recognize to ensure landing in the correct dissection plane, recognize how to identify wrong planes, and equally important understand how to recover. This presentation will include the anatomical basis for taTME view in relation to the trans-abdominal view.

---

---

**SY2-1 Kono-S anastomosis for Crohn's disease****Streaming  
Room 1****Authors:** Toru Kono<sup>1</sup>, Alessandro Fichera<sup>2</sup>**Organisation:** <sup>1</sup>Advanced Surgery Center, Sapporo Higashi Tokushukai Hospital, Hokkaido, Japan; <sup>2</sup>Division Chief, Colon and Rectal Surgery, Baylor University Medical Center, Dallas, USA**Abstract:**

After bowel resection in patients with Crohn's disease (CD), indispensable recurrence begins at the anastomotic site and adjacent oral site. Disease recurrence typically starts on the mesenteric side of the bowel and it is predominantly located at the anastomotic or peri-anastomotic level especially in the small bowel and terminal ileal disease. Local peri-anastomotic factors have been studied including localized ischemia and denervation, and more recently changes in the local microbiome, in part resulting from fecal stasis, increased transit time and reduced or impaired motility at the anastomotic level. In September 2003, Kono and his colleagues invented the surgical technique to prevent anastomotic recurrence (Kono-S anastomosis) in patients with CD. The Kono-S anastomosis consists of transecting the mesentery close to the bowel to avoid devascularization and denervation. The bowel is then divided with a linear cutter keeping the mesentery in the center of the stump. The stumps are sutured together to create a supporting column to avoid luminal distortion, thus preventing fecal stasis. Longitudinal enterotomies are created on the antimesenteric sides to allow a transverse large lumen of approximately 7 cm and they are hand sewn together in a transverse fashion. Since then Kono-S anastomosis has been adopted by 21 university hospitals (25% of the academic institutions) and other medical institutions in Japan. Starting in May 2010, this novel anastomotic technique was also adopted by few academic institutions in the United States of America. More than 2000 patients with CD around the world have been treated using this technique and have demonstrated excellent safety and efficacy results in reducing endoscopic and surgical recurrence rates.

---

---

**SY2-2 Surgical management of ulcerative colitis****Streaming  
Room 1****Author:** Feza H Remzi**Organisation:** Inflammatory Bowel Disease Center, NYU Langone Health, NYU Grossman School of Medicine, New York, NY, USA**Abstract:**

Ulcerative colitis (UC) is a chronic, idiopathic and remitting disorder characterized by persistent inflammation of the colon mucosa. Approximately 20% to 30% of patients with UC eventually require surgery for failure of medical therapy or development of colitis-associated neoplasm. The aim of the surgery is removal of the sick colon and preserve the gastrointestinal continuity. Thus, restorative proctocolectomy – ileal pouch anal anastomosis (RP-IPAA) is the gold standard for the surgical treatment of UC. RP/IPAA preserves the natural route of defecation and improves quality of life.

RP/IPAA can be performed via 1-2 and 3- staged approaches. Since the patients admit sicker and use multiple immunosuppressant drugs when the surgery is indicated, 3-staged approach including total colectomy&end ileostomy followed by completion proctectomy&IPAA and loop ileostomy and ileostomy closure has been more commonly used by many centers. This approach provides a rehabilitation period for patient by removal of the sick colon before anastomosis construction and thus facilitates the anastomotic integrity after IPAA construction by mitigating pelvic sepsis risk. 1- or 2- staged approaches can be preferred in selected patients.

Although RP/IPAA is associated with excellent long-term outcomes, around 10% of the patients experience ileal pouch failure. Redo IPAA is a viable option to maintain intestinal continuity in patients who are otherwise deemed to undergo pouch excision and live with a permanent ileostomy. Surgical experience combined with a motivated patient may bring around long term pouch survival rates around 85% and consequently excellent patient satisfaction after re-do IPAA.

This session includes surgical management of a patient with UC.

---

---

**SY2-3 Clinical results following intestinal resection in 1143 Crohn's disease patients****Streaming  
Room 1**

**Authors:** Hiroki Ikeuchi, Motoi Uchino, Toshihiro Bando, Yoshiko Goto, Yuki Horio, Ryuichi Kuwahara, Tomohiro Minagawa, Kurando Kusunoki

**Organisation:** Department of Gastroenterological Surgery, Hyogo College of Medicine, Hyogo, Japan

**Abstract:**

**Purpose:** Crohn's disease (CD) is an intractable inflammatory bowel disease of unknown cause that shows repeated recurrence and occasionally requires multiple surgical procedures. We examined clinical features and the postoperative course of 1143 patients who underwent intestinal resection for CD at our hospital. **Methods:** From September 1974 to July 2014, 1133 patients underwent a total of 2001 intestinal resection procedures for CD at our hospital. The surgical procedures were identified in the records, clinical notes were retrospectively reviewed, and the rate of reoperation was determined. **Results:** There were 827 males and 326 females, for a ratio of 2.6:1. Mean age at the initial surgery was 30.0 years (range 7-78 years) and the duration of disease was 20.4 years (2.5-43.2 years). The type of disease noted at the initial surgery was ileitis in 380, colitis in 104, and ileocolitis in 659 cases. As for the indications for surgery, 604 (52.8%) had non-perforated and 539 (47.2%) perforated type. Postoperative complications (Clavien-Dindo III and above) were confirmed in 66 cases (3.3%), with leakage the most frequent (n=45, 2.2%). The cumulative 5-year reoperation rate was 22.2%. Gender, age at initial surgery, disease type, lesion site, drinking history, and smoking history were not found to be risk factors for reoperation, whereas presence of an anal lesion at the initial surgery was a significant factor related to reoperation (p=0.001). At the time of the analysis, 24 (2.1%) patients had died, 16 of which were cancer deaths. **Conclusions:** The reoperation rate for the cumulative 5-year period was 22.2% and the only risk factor for another surgery found was presence of an anal lesion at the initial surgery. The majority of deaths were due to cancer.

---

---

**SY2-4 Bariatric surgery in obese patients with inflammatory bowel disease**

Streaming  
Room 1

**Author:** Pascal Alain Gervaz, Xavier Delgadillo

**Organisation:** Medical School, University of Geneva, Geneva, Switzerland

**Abstract:**

IBD patients may be morbidly obese and candidate to bariatric surgery. The combination of a chronic bowel inflammatory condition with either a gastric bypass (GB) or a sleeve gastrectomy (SG) has a potential for significant long-term complications. We evaluated the results of bariatric surgery in a series of 22 patients with either Crohn's Disease (CD) or Ulcerative colitis (UC).

There were 19 women and 3 men (median age = 48 years, median BMI = 42) who were followed for a median of 83 months. 12 patients had CD and 10 patients had UC. We performed a GB in 17 patients and a SG in 5 patients. Excess Body Weight Loss was 62% and 53% at 2- and 5-year follow-up respectively. The results of bariatric surgery were similar to the general population of obese patients. However, we consider, that obese patients with IBD should preferentially undergo a Sleeve Gastrectomy, for two reasons:

- 1) Patients with CD, especially if they have evidence of small bowel inflammation may be at risk of short bowel syndrome after a bypass.
  - 2) Gastric bypass may compromise the performance of total proctocolectomy in patients with UC.
-

---

**SY2-5** TBD

**Streaming  
Room 1**

**Author:** Enio Oliveira

Goiás, Brazil

---

**Author:** Ki-Hwan Song

**Organisation:** Goo Hospital, Daegu, Korea

**Abstract:**

Perianal fistulizing Crohn's disease (PFCD) is one of the most aggressive and disabling phenotypes of this important subtype of inflammatory bowel diseases. Complex and simple fistulas can affect the perianal area in 25% to 80% of Crohn's disease (CD) patients, and are related to significant symptoms such as purulent discharge, local edema, soiling and anal discomfort, and often have a poor prognosis, with permanent sphincter and perineal tissue destruction. Crohn's fistulas are thought to derive either from the anal glands at the dentate line in the anal canal or from ulceration in the anal canal or rectum. Infection leads to abscess formation and subsequent tracking away from the anal canal. The direction of the track, and its complexity, influence the type of therapeutic approach required. Superficial fistulas that do not traverse the sphincter complex are easier to treat and have a less complicated course than complex fistulas.

Assessment should include the following: (1) endoscopy to assess proximal disease and specifically assess for the presence and extent of rectal disease; (2) pelvic floor imaging with magnetic resonance imaging (MRI) or anal endosonography to delineate fistula anatomy, extent, and relationship of the tracks to the sphincter muscles; and (3) examination under anesthetic to include surgical drainage and/or seton placement if necessary.

Treatment is most effective when antibacterial, immune suppression, and physical factors such as drainage are addressed. The traditional mainstay of treatment has been largely surgical, including drainage and use of a nondissolving thread (seton) inserted loosely through the fistula track to maintain patency. The seton can be removed when the track is healing, or left in situ long term if healing is not occurring. This surgical approach prevents sphincter damage by preventing recurrent abscess formation. The presence of active proctitis reduces the chance of fistula healing. Proctitis needs to be treated aggressively if fistula healing is to be achieved. The presence of rectal inflammation also influences surgical treatment. If Crohn's rectal inflammation is quiescent then superficial fistulas can be laid open. Deeper fistula tracks can be cored out and the ends closed. Secondary branches must be identified and dealt with. Invasive surgical treatment, that is, extensive dissection, can threaten continence if much of the sphincter complex is divided. Division of the internal sphincter muscle is particularly liable to lead to incontinence.

Medical therapy in isolation for PFCD is associated with significant limitations, mainly in conventional treatment. Antibiotics such as metronidazole and ciprofloxacin can be used with variable success rates, but recurrence is quite frequent after treatment discontinuation, that can occur due to important adverse events. Immunomodulators (azathioprine or 6-mercaptopurine) also can lead to reduction of purulent discharge, and are often used in clinical practice. However, clinical data from prospective trials are scarce and limited with these agents. The use of tumor-necrosis-factor antagonists (anti-TNF agents), like Infliximab (IFX) and Adalimumab (ADA) can lead to an improve of the inflammation of perianal fistulas related to CD. These drugs were studied in some prospective trials, and up to date, anti-TNF agents seem to be the most powerful medications in the management of this phenotype of CD. However, some retrospective populational studies had demonstrated that in the biological era, there was an increase in the occurrence of perianal abscesses with biological agents alone, possibly due to the closure of the external openings at the skin level, with persistence of the inflammatory process at the fistula tracks. Combined therapy with anti-TNF agents and seton placement during EUA seems to be the most effective form of treatment of PFCD.

The curettage of the fistula tracks associated with the economic excision of the inflamed external openings prepare the perianal tissue for the proper action of biological agents. Regueiro et al. have studied the efficacy of IFX in PFCD, and demonstrated that the healing rates were higher and recurrence rates were lower when the biological agent was associated with seton placement, as compared to its use in isolation. Gaertner et al. also demonstrated similar results, showing 42% of healing rates in patients treated with seton placement associated with IFX, a higher index as compared to surgery alone (18%). In these patients with complex perianal fistulizing disease that persists despite intensive medical and surgical treatment, a therapeutic gap exists for new treatments which aim for complete and sustained closure of the perianal fistulas. ASCs enlarge the therapeutic arsenal for anal fistulae, and can be considered an interesting tool for the regeneration/repair of wounds or chronically damaged tissues. The specific mechanism of action of ASCs is still under study, but it has been widely demonstrated that these cells improve healing. Two different biologic effects are responsible for this healing effect: proliferation and differentiation on the one hand, and immune regulation and local suppression of inflammation on the other. Before injection with ASCs, fistula tract was thoroughly curetted and irrigated under anesthesia. After internal opening was completely sutured using 2-0 vicryl, cells were evenly injected into the submucosa surrounding internal opening and fistula tract wall. Open fistula tract was filled with a mixture of ASCs and fibrin glue (Greenplast kit, Seoul, Korea or Tisseel- fibrin sealant, Wien, Austria) using dual syringe injection system.

Dose of ASCs was determined based on the fistula size. The fistula size was determined from diameter and length of fistula, which were measured using a probe before injection.

In summary, when treating Crohn's disease anal fistulas, accurate imaging and conservative therapy to achieve drainage and minimize sphincter damage remain central to effective treatment. Although azathioprine or 6-mercaptopurine still often are regarded as first-line drug therapies, biological agents often are needed. Both infliximab and adalimumab undoubtedly are effective in a relatively short period of time. MRI is likely to play an important role in influencing the duration of treatment. Anorectal Crohn's disease often is undertreated. Its treatment is an area par excellence in which cooperation between a conservative surgeon, proactive gastroenterologist, and expert radiologist is likely to lead to the greatest therapeutic success.

---

**SY3-1 Laparoscopic extended surgery for locally advanced and recurrent rectal cancer**

Streaming  
Room 1

**Authors:** Masataka Ikeda, Kei Kimura, Yuya Takenaka, Chihyon Son, Michiko Yasuhara, Akihito Babaya, Kozo Kataoka, Naohito Beppu, Motoi Uchino, Hiroki Ikeuchi

**Organisation:** Department of Gastroenterological Surgery, Hyogo College of Medicine, Hyogo, Japan

**Abstract:**

In selected patients, aggressive surgery for locally advanced and recurrent rectal cancer is effective and sometimes cure can be obtained. R0 resection is the key to better oncological outcome. We have introduced laparoscopic surgery for locally advanced and recurrent rectal cancer since 2012, in order to reduce the risk of surgical site infections and other complications. Laparoscopic surgery lacks tactile sense, needs longer operation time, and requires surgeon's skill. On the other hand, blood loss is low and magnified view enables surgeons to perform precise surgery. Especially in the pelvic area, many landmarks for extended pelvic surgery such as superior pudendal arteries, lumbosacral trunk, ischial spines, obturator foramen, internal obturator muscle, etc. Most essential part of the surgery for locally advanced and recurrent rectal cancer is operation planning to determine the dissection line in the pelvis. These landmarks allow us to perform laparoscopic procedure as close as determined by preoperatively. In this presentation we would like to demonstrate these landmarks for extended surgery for locally advanced and recurrent rectal cancer.

---

---

**SY3-2 Locally recurrent rectal cancer after local excision**

Streaming  
Room 1

**Author:** Seung-Yong Jeong

**Organisation:** Surgery, Seoul National University College of Medicine, Seoul, Korea

**Abstract:**

TME remains the gold standard for rectal cancer but it is sometimes accompanied with serious morbidities or mortalities. Moreover, when the tumor is located far distally, near the anus, sphincter saving might be threatened.

Local excisional therapy including the conventional transanal excision (TAE) and minimal invasive surgery including TEM/TEO and TAMIS can be offered as an alternative in carefully selected patients. Studies comparing radical surgery with transanal local resection for T1 rectal cancer demonstrate no significant difference in recurrence or 5-year survival rate and it also has some benefits in terms of offering a chance for saving sphincter, lower morbidity and avoidance of diverting stomas.

However, the most noticeable weak point of the local treatment options is the risk of lymph node metastasis. Lymph node metastasis occurs in 6.8% to 18.0% of T1 colorectal cancers. Accordingly, local treatment options should be performed selectively in superficial submucosal invasive carcinoma without any risk factors for lymph node metastasis. If the histologic analysis of the resected specimen shows that the cancer has massively invaded the submucosa, unfavorable histology or incomplete surgical margins, additional radical salvage resection (salvage resection) is required. Usually immediate salvage operation provides better oncologic outcomes when compared to delayed resection. Previous studies reported that salvage operations were possible in 50 to 100% of the patients which were dependent on the clinicopathologic characteristics of the included patients.

---

---

**SY3-3** Treatment of locally recurrent rectal cancer ISUCRS 2020

Streaming  
Room 1

**Author:** Nitin Mishra

**Organisation:** Mayo Clinic, Arizona, USA

**Abstract:**  
TBD

---

**Author:** Selman Sokmen

**Organisation:** Dokuz Eylul Univ. Medical Faculty, Dept. of Surgery, Colorectal&Pelvic Surgery, Izmir, Turkey

**Abstract:**

Many studies report controversial data for both colon and rectal cancer salvage, despite differences in recurrence patterns, treatment modalities, and survival.

Not surprisingly, **complete resection** appears mandatory for cure or prolonged survival. **“Complexities” in these patients are** : difficult pelvic anatomy; multiorgan involvement; sojourn time of tumor cells decrease; no enveloping tissue compartment; anatomic boundaries violated and ‘unwanted’ effects of IRT.

“Good news” are the presence of peritoneal barrier, a variant of CRC that remains persistently localized, the recurrence of CRC does not mean a systemic disease and the benefits of chemoradiotherapy in responders.

Thus, something more than a blind tradition is required;

the patient should no longer be subjected to standard operations,

**BUT THE INTRAPELVIC OPERATION SHOULD BE FITTED TO THEIR UNUSUAL NEEDS!**

**Challenges over the past 70yrs:** 1)To define which group of patients would benefit most from this extensive surgery, 2)To refine surgical techniques and thereby improve perioperative mortality and morbidity, and 3) to carefully preoperatively assess to select patients with a real chance of cure is crucial.

However, these exercises in itself can be depressing.

Assessment by thoraco-abdominal CT supplemented with MRI and PET-CT may be difficult when there is fibrosis and fixation as a result of previous surgery or radiotherapy.

In many cases the final decision still has to be taken at the time of exploratory laparotomy. **Liberal use of peroperative biopsy and frozen section** is invaluable in this type of extra-aggressive surgery.

**Surgical philosophy of pelvic exenteration&Abdomino-sacral resection:** The most radical attack to cancer; removes basically all pelvic organs; the goal of exenterative surgery should always be resection of the tumor with clear(-ve) margins; limited forms of PE have the benefit of sparing possibly uninvolved organs, trade-off: increased risk of recurrence; the more advanced the primary disease, the more likely is central treatment failure; the patient should be fully informed about the benefits and risks of this procedure; and he(or she) must demonstrate understanding and acceptance of all possible consequences; can provide a significant salvage rate in patients with primary advanced or recurrent pelvic cancers; no other equally curative form of therapy exists for this distressing condition; rather than relegating pts w recurrent malignancy to the scrap heap of repeated IR+CT which are rarely curative, one should consider PE whenever possible; the operation can be taxing and stressful, for the surgeon and the patient; and stereotyped, systematic exenterative operative technique is impossible.

The most important prognostic factors after potentially “curative” resection are lymph node metastasis and resection margin involvement(>R0).

**Pelvic exenteration for palliation:** occasionally perform PE for palliation, can improve the quality of life of patients, many authors do not believe, others carefully individualize, the select indications are recurrent hemorrhage, recto-vesico-vaginal fistula, pelvic pain, tumor abscess and spillage/fungating from the ano-perineum.

Above all, the solid data from experienced surgeons at specialized centers, indicate that the potential curability of a patient with primary locally advanced or recurrent rectal cancer by performing an exenterative surgery can be possible with low morbidity results at highly-experienced centers(“Birkmeyer’s effect”).

---

**SY3-5 Strategy for treatment of locally advanced and recurrent rectal cancer**

Streaming  
Room 1

**Author:** Khaled Madbouly

**Organisation:** Department of Surgery, University of Alexandria, Alexandria, Egypt

**Abstract:**

Some principals should be applied like ureteric stents, and preoperative marking of stoma site. The decision regarding how to proceed with central or axial recurrences is heavily related to the involvement of urogenital organs and the primary procedure previously performed. In the case of involvement of urogenital organs, curative resection requires an extended radical approach. If the dome of the bladder alone is involved, a partial cystectomy will be enough. If the trigone is involved, and the prostate in males, total pelvic exenteration and en-bloc prostatectomy are the only curative option. In females, involvement of the uterus or vagina requires hysterectomy. Reconstructive options, such as, an ileal conduit, colonic conduit, or vaginal reconstruction are possible.

---

---

**SY3-6 Surgical treatment following neoadjuvant chemoradiotherapy in locally advanced rectal cancer**

Streaming  
Room 1

**Author:** Jaw-Yuan Wang

**Organisation:** Department of Surgery, Kaohsiung Medical University Hospital, Kaohsiung Medical University, Kaohsiung, Taiwan

**Abstract:**

A multimodal treatment approach is the only method to achieve satisfactory local recurrence and survival rates in LARC. With advances in surgical pathology, refinements in surgical techniques and instrumentation (robotic surgery), new imaging modalities, and the widespread use of neoadjuvant therapy have all contributed to these improvements. Concurrent chemoradiotherapy (CCRT) followed by surgery is the mainstay treatment for locally advanced rectal cancer (LARC). This approach is especially attractive in the setting of bulky tumors and radiographic evidence of tumor involvement of the radial circumferential mesorectal margin, adjacent organs (prostate or vagina), or numerous locoregional lymph nodes. Preoperative CCRT substantially improves local control and sphincter preservation rates, decreasing treatment-related toxicity compared with that in a postoperative setting. In addition to radiotherapy techniques such as CCRT, we discuss the progress of chemotherapy, appropriate time interval between CCRT and surgery, relationship between tumor location and CCRT efficacy/safety, wait and-watch policy, and predictors of treatment response following CCRT. Several questions emerge as we learn of the benefits or lack thereof for components of the current multimodality treatment in subgroups of patients with LARC. What is the optimal surgical technique for distal rectal cancers? Do all patients need postoperative chemotherapy? Do all patients need radiation? What is the optimal timing of T4 rectal cancer after the completion of CCRT remains controversial due to the potential unresectability of primary tumor and the preservation of surrounding invaded organs? Do all patients need surgery, or is a nonoperative, organ-preserving approach warranted in selected patients?

---

---

**SY4-1 The current status of LARS in Japanese patients undergoing sphincter-preserving resection for rectal cancer**

Streaming  
Room 1

**Authors:** Kimihiko Funahashi, Takamaru Koda, Yasuo Nagashima, Tomoaki Kaneko, Mitsunori Ushigome, Satoru Kagami, Kimihiko Yoshida, Yasuyuki Miura

**Organisation:** Department of Gastroenterological Surgery, Toho University Omori Medical Center, Tokyo, Japan

**Abstract:**

**Background:** Historically, sphincter-preserving rectal surgery has been a significant challenge. Recently, bowel movement irregularities following surgery have been a significant issue. Colorectal surgeons in Japan have been more attentive to anorectal dysfunction following rectal surgery, the so-called low anterior resection syndrome (LARS). The status of LARS has not been established. The aim of the current study was to understand the status of anorectal dysfunction following rectal surgery in Japan.

**Methods:** We distributed a questionnaire to facilities in Japan and analyzed the status of intersphincteric resection (ISR) for low rectal cancer. Based on the results, we discuss herein the issue of post-operative anorectal dysfunction following ISR.

**Results:** The response rate was 39% (172 of 441 facilities). The number of facilities where the ISR procedure was performed during the survey period was 88 (51%). Excluding the 30 facilities that did not respond, 52% of 142 facilities responded that a diverting stoma could not be reversed because of recurrence, anastomotic difficulty, and anal sphincter-related dysfunction. Of 142 facilities, 81% had at least 1 patient with fecal incontinence. Approximately 90% of 142 facilities reported that patients had anorectal dysfunction even though they were followed for  $\geq 2$  years after diverting stoma reversal. Most facilities handled anorectal morbidity with medications alone, although there were a significant number of non-responders.

**Conclusion:** This survey analysis suggests that anorectal dysfunction following ISR has predictable morbidity. How to manage anorectal morbidity following rectal surgery warrants attention in Japan.

---

**Author:** Kang Young Lee

**Organisation:** Department of Surgery, Yonsei University College of Medicine, Seoul, Korea

**Abstract:**

Recent advances in surgical techniques and multidisciplinary treatments have led to the possibility of sphincter preservation in patients with low rectal cancer. During the last decades, the proportion of abdominoperineal resection has been decreased by less than 10% in our institution. Moreover, sphincter-preserving surgery itself has been regarded as one of the essential goals to be achieved by both colorectal surgeons and patients in terms of quality of life, with many of them exhibiting debilitating social limitations or even developing psychiatric disorders.

About 60~90% of patients who undergo rectal resection have reported to experience changes in their bowel habits. Those changes are reported as a vast spectrum of symptoms such as frequency, urgency, fecal incontinence, fragmentation, and constipation. This broad spectrum of bowel dysfunction symptoms after rectal cancer resection is called low anterior resection syndrome (LARS). LARS is known to be caused by a combination of three factors: colorectal dysfunction, neorectal dysfunction, and anal sphincter dysfunction. There is variability in the literature's results reporting the LARS incidence. Some studies reported its incidence ranging from 19% to 52%.

Data collecting with validated postoperative bowel dysfunction questionnaires over long-term follow-up is first needed to make further step to define more appropriate LARS, to find out actual incidence and to measure its impact on psychosocial aspect. Scoring systems can be used such as the European Organization for Research and Treatment of Cancer (EORTC) QLQ-30, QLQ-38, Memorial Sloan Kettering Cancer Center Bowel Function Instrument (MSKCC BFI) and low anterior resection syndrome score (LARS score) along with objective testing tools, to assess the patient's functional status.

LARS can manage with medication, pelvic floor rehabilitation, neuromodulation, and for patients with persisting severe symptoms, permanent stoma formation should be carefully considered. Despite the available treatment options, yet there is no standard treatment for LARS.

Based on the current data of MSKCC-BFI after sphincter-preserving surgery for rectal cancer patients in our institution: incidence, recovery of bowel function over time, and risk factors affecting poor postoperative bowel function will be discussed.

---

**SY4-3 Functional results of intersphincteric resection for low rectal cancer****Streaming  
Room 1**

**Authors:** Kazutaka Yamada, Yasumitsu Saiki, Shota Takano, Mitsuko Fukunaga, Masafumi Tanaka, Yasushi Nakamura, Hirotaka Hamada, Daisaku Kuwahara, Yasue Irei, Takafumi Suzuki, Yoriyuki Tsuji, Masahiro Takano

**Organisation:** Department of Surgery, Coloproctology Center Takano Hospital, Kumamoto, Japan

**Abstract:**

**[Introduction]** Intersphincteric resection (ISR) with coloanal anastomosis is the ultimate sphincter-preserving operation for low rectal cancer.

**[Methods]** Consecutive patients (n=242) with low rectal cancer underwent curative ISR or partial external sphincter resection (ESR) at Takano Hospital from 2001 to 2018. ISR was categorized into total ISR, subtotal ISR and partial ISR by the location of the distal resection line of the internal anal sphincter. Patients with poorly differentiated adenocarcinoma or impaired fecal continence were excluded. Defecatory function was clinically evaluated through personal interviews about the frequency of bowel movements, continence (Wexner's score & Kirwan's classification) and evacuation disorders at 12 to 24 months after ISR or partial ESR. Manometry and anorectal sensation testing were used to evaluate anal sphincter function. Patients (n=20) with persistent fecal incontinence after ISR or partial ESR were treated between 2016 and 2019.

**[Results]** The 5-year overall survival rate according to the TNM stage was 93.6% (stage I), 94.9% (stage II), and 83.2% (stage III), and the 5-year relapse-free survival rate was 86.3% (stage I), 82.8% (stage II), and 66.4% (stage III). Good continence (Kirwan grade 1 & 2) was seen in 75 (72.8%) partial ISR patients, 33 (63.4%) subtotal ISR patients, 13 (48.1%) total ISR patients, and 8 (47.0%) partial ESR patients. The maximum resting pressure was significantly lower after subtotal ISR, total ISR and partial ESR. Biofeedback therapy, pharmacotherapy and electrical stimulation therapy (PTNS & TaES) resulted in significant improvements in fecal incontinence and in the Wexner's score.

**[Conclusion]** ISR may be the optimal sphincter preserving surgery for low rectal cancer if strict selection criteria are used.

---

---

**SY4-4 Low anterior resection syndrome. What have we learned assessing a large “healthy” population?**

Streaming  
Room 1

**Authors:** Audrius Dulskas<sup>1</sup>, Povilas Kavaliauskas<sup>1</sup>, Edgaras Smolskas<sup>4</sup>, Narimantas Evaldas Samalavicius<sup>2</sup>, Joseph Nunoo-Mensah<sup>3</sup>

**Organisation:** <sup>1</sup>Abdominal and General Surgery and Oncology, National Cancer Institute Vilnius, Lithuania; <sup>2</sup>Klaipeda University Hospital; <sup>3</sup>King's College; <sup>4</sup>Vilnius city hospital

**Abstract:**

**Objective:** Assess the Low Anterior Resection Syndrome (LARS) score in healthy volunteers.

**Background:** LARS score is a validated and frequently used tool for measuring bowel dysfunction after sphincter sparing surgery for rectal cancer. However, only in a handful of studies has this syndrome been evaluated in healthy individuals.

**Methods:** The total amount of people, who answered the questionnaire was 8183. 142 (1.74%) were excluded due to a lack of information. A brief questionnaire including the LARS score and health-related items were distributed throughout Lithuania using community online platforms and general practitioners.

**Results:** 6100 (75.9%) were females and 1941 (24.1%) males. After adjusting for gender and age, male patients had a significant average score of 18.4 (SD±10.35) and female 20.3 (SD±9.74) p<0.000. Minor LARS accounted for 36.4% and major LARS 14.2% of our study population. Overall, major LARS is associated with previous operations: 863 patients in the operated group (71.7%) and 340 patients (28.3 %) non-operated group (P<0.000). Major LARS was significantly more common in 51-75 years old patient group with 22.7% (P<0.000) increased with age and with a higher female predisposition to the age of 75. Multivariate logistic regression analysis showed that colorectal operations and the use of neurological drugs were independent risk factors for major LARS.

**Conclusions:** A LARS score of >30 (major LARS) is common in the general population at any age. It is affected by other surgeries, age, gender, comorbidities and drugs used. These factors should be considered when interpreting the LARS score following low anterior resection.

---

---

**SY4-5 Management of anorectal dysfunction after low rectal cancer treatment**

Streaming  
Room 1

**Author:** Leonardo Bustamante-Lopez, Marianny Sulbaran, Caio S. Nahas,  
Sergio C. Nahas

São Paulo, Brazil

**Abstract:**

A substantial fraction of rectal cancer patients presents with locally advanced disease for which the standard of care includes neoadjuvant chemoradiotherapy followed by total mesorectal excision (TME). Neoadjuvant chemoradiation provided better local control of disease and potentially increasing sphincter preservation.

The problem with the neoadjuvant therapy and the Low or very low Anterior resection and coloanal anastomosis is almost 90% these patients developed at least some degree of bowel dysfunction postoperatively. They have a multidimensional bowel dysfunction syndrome consisting of fecal incontinence, urgency, frequent bowel movements, and clustering, collectively referred to as the LAR syndrome (LARS). Our objective is to diagnostic, treated and reevaluated. We are focus in improved the quality of life of these patients, with the best treatments in our center. We performed clinical, manometry and 3D ultrassom studies, with medical and/or surgical treatment.

Dr. Leonardo Bustamante-Lopez

Experienced colorectal surgeon with a strong academic background.

Colorectal Surgeons at Clinics Hospital, Sao Paulo School of Medicine and Cancer Institute of Sao Paulo.

Advanced training in anorectal physiology tutored by Jose Marcio Neves Jorge, MD.

PhD degree in Gastroenterology Sciences at University of Sao Paulo School of Medicine in

2017.

International Fellow of the American Society of Colon and Rectal Surgeons.

Member of the Venezuelan and Brazilian Society of Coloproctology.

---

---

**SY4-6 Postoperative dysfunction after rectal cancer surgery**

Streaming  
Room 1

**Author:** Klaus E. Matzel

**Organisation:** Department of Surgery, Section Coloproctology, University of ErlangenNuremberg, Erlangen, Germany

**Abstract:**

Oncological treatment of rectal cancer has improved over the last decades, mainly because of the introduction of multimodal therapy concepts. The functional sequelae of the treatment has been less in the focus. The functional sequelae of multimodal treatment of rectal cancer are relevant as their impact on life can be detrimental. Not only the combination of treatment modalities, but each component of the multimodal therapy – chemotherapy, radiation, surgery - per se can deteriorate function. Dysfunction after rectal cancer treatment is summarized as Low Anterior Resection Syndrome “LARS”. LARS represents a combination of incontinence, evacuation disorders, clustering, frequent bowel movements, urgency, soiling, unpredictable bowel function and altered stool consistency. The prevalence of major functional disorders after rectal cancer treatment is as high as 40%. In a large percentage of the affected patients the syndrome is not temporary, but lasting. Treatment modalities for LARS are evolving. Most of them are modalities developed for evacuation disorders and incontinence and are applied in analogy to their use in these conditions, mainly in a staged and trial-and-error approach adapted to patients acceptance and compliance. Conservative treatments like biofeedback, pelvic floor exercise, pharmacologic interventions, transanal irrigation and posterior tibial nerve stimulation appear to have some, but limited effect on symptom relief. Preliminary data indicate that more invasive techniques like anterograde irrigation via cecostomy and sacral neuromodulation can improve symptom and quality of life. The indication for more invasive treatment should be based on failure of conservative treatment, the severity of symptoms and its impact on quality of life.

---

---

**SY5-1 The surgical technique and outcome of robotic colorectal cancer surgery in high volume center in Japan**

Streaming  
Room 1

**Authors:** Yusuke Kinugasa, Takatoshi Matsuyama, Shinichi Yamauchi, Akifumi Kikuchi, Taiki Masuda, Yuriko Matsumiya, Yuudai Yamamoto, Yamato Yamashita, Masako Mizoguchi, Kei Nakajima, Tetutoshi Nankaku, Hiroki Yonezawa, Masayoshi Sakano

**Organisation:** Gastrointestinal Surgery, Tokyo Medical and Dental University, Tokyo, Japan

**Abstract:**

There are more than 400 da Vinci systems in Japan. Robotic rectal cancer surgery was approved for national health insurance since April 2018 in Japan. The number of Robotic rectal cancer surgery has increased more than 3 times in Japan.

We performed 650 robotic rectal cancer surgery from 2011 to 2017 in Shizuoka cancer center hospital, and 200 in TMDU from 2017 to 2019.

Robotic surgery was superior to laparoscopic surgery in a hospital stay, blood loss conversion rate and frequency of urinary retention in our cases. Moreover, in robotic surgery, we can mobilize the rectum into the anal canal easily. Therefore, even in very low rectal cancer which was indication for ISR could be performed LAR. In Japan, lateral lymph node dissection is the standard treatment for locally advanced lower rectal cancer. The indication of the lateral lymph node dissection is lower rectal cancer with T3 or T4. Lower rectal cancer was defined as rectal cancer below the peritoneal reflection. Lateral lymph node dissection is a good indication of robotic surgery. We performed more than 200 robotic surgeries with lateral lymph node dissection for lower advanced rectal cancer and got better outcome compared by open approach. recently,

Robotic colectomy is also increasingly reported worldwide, but not in Japan. We had started robotic colectomy utilizing the da Vinci surgical system Xi® for the first time in Japan in February 2018. It seems to be useful for lymph node dissection and intracorporeal anastomosis. We are conducting a multi-institutional prospective feasibility study for evaluation for the safety of robotic colectomy for resectable colon cancer.

---

---

**SY5-2 Revisit to deep pelvic anterolateral dissection with Robot**

**Streaming  
Room 1**

**Author:** Nam Kyu Kim

**Organisation:** Department of Surgery, Yonsei University College of Medicine, Seoul, Korea

**Abstract:**

With accumulation of robot pelvic dissection, magnified stable 3D view used to make me to have a more concentration of sharp anatomical dissection for better oncologic and functional outcome,.

I would like to demonstrate my insights to deep anterolateral pelvic dissection for get cylindrical complete mesorectum covered with mesorectal fascia and to preserve a pelvic autonomic nerve structure. I also would like to adress a few key words in this abstract; Denonvilliers' fascia , multilayered, neurovascular bundle, the prostate, parietal pelvci fascia and pelvic plexus. For understadnig these structures, pelvic floor muscle and anal histus and anococcygeal raphe be understood. Based on my personal experiences of robotic TME for rectal cancer over 600 cases; I would like to share my insights about deep pelvic dissection for complete TME and pelvic nerve perservation.

---

---

**SY5-3 Robotic surgery using double bipolar method for rectal cancer****Streaming  
Room 1**

**Authors:** Hidetoshi Katsuno<sup>1</sup>, Tsunekazu Hanai<sup>1</sup>, Koji Masumori<sup>1</sup>, Yoshikazu Koide<sup>1</sup>, Keigo Ashida<sup>1</sup>, Hiroshi Matsuoka<sup>1</sup>, Yosuke Tajima<sup>1</sup>, Tomoyoshi Endo<sup>1</sup>, Tadahiro Kamiya<sup>1</sup>, Yongchol Cheong<sup>1</sup>, Kotaro Maeda<sup>2</sup>, Ichiro Uyama<sup>1</sup>

**Organisation:** <sup>1</sup>Department of Surgery, Fujita Health University, Aichi, Japan;  
<sup>2</sup>International Medical Center, Fujita Health University, Aichi, Japan

**Abstract:**

A total of consecutive 225 patients have undergone robotic surgery for rectal cancer at our institute since 2009, including lateral lymph node dissection (LLND) in 56 patients. We herein show our surgical technique utilizing double bipolar method (DBM) with Maryland Bipolar Forceps on the right hand and Fenestrated Bipolar Forceps on the left hand, and report its short-term outcomes compared to the Single Bipolar Method (SBM). [Method] Although a port placement is different depending on the type of robotic system (Si or Xi), the procedure for TME has been standardized in the institute. DBM is considered to be effective for D3 lymph node dissection around the route of inferior mesenteric artery, mesenteric work for tumor-specific mesorectal excision, and LLND. [Results] In this study, we compared the short-term outcomes of DBM (56 patients) with those SBM (54 patients) performed by corresponding speaker. The console time for TME was 187 min (110-348) in the SBM group and 139 min (66-196) in the DBM group. Estimated blood loss was 30g (2-500) and 20g (3-357), respectively. In terms of postoperative complication, anastomotic leakage was observed in 2 patients in the SBM group and 1 patient in the DBM group. Small bowel obstruction was observed in 2 patients in both groups, and pelvic abscess in 2 patients and 1 patient, respectively. [Conclusions] Robotic surgery utilizing DBM for rectal cancer was safe and feasible. We hereby demonstrate our surgical technique taking advantages of DBM for rectal cancer and report its short-term clinical outcomes.

---

---

**SY5-4 Present and Future of Robotic Surgery**

**Streaming  
Room 1**

**Authors:** Jin Kim, Ji-Seon Kim, Jung-Myun Kwak, Se-Jin Baek, Seon-Hahn Kim

**Organisation:** Surgery, Korea University College of Medicine, Seoul, Korea

**Abstract:**

Minimally invasive surgery for rectal cancer is now widely performed via the laparoscopic approach. It has been validated by randomized controlled trials to be oncologically safe with better perioperative outcomes than open surgery. Laparoscopic surgery, however, has inherent limitations due to two-dimensional vision, restricted instrument motion and a very long learning curve. Robotic surgery with its superb three-dimensional magnified optics, stable retraction platform and 7 degrees freedom of instrument movement offer significant benefits during general surgery. However, it still has limitation including lack of tactile sense, overpowered instrument, limitation of multi-quadrant operation, and cost-effectiveness cannot be overlooked. The body of space-occupying robotic arms have tended to decrease in volume, and it will improve the collision during the procedure. Several technologies are waiting for combing with the robotic surgical system. Image overwrapping technology or navigation surgery is one of them. Robotic staplers and advanced energy device are also in the cue. Such a combination of techniques will satisfy the surgeon's demand and surgical outcome. Collaborative robot (cobot or co-robot) is another field which is developing. Currently developed cobot has a limited role, for example, holding a camera due to the underdeveloped software at present. However, considering the cost-effectiveness, it has the potential to spread even in the secondary hospital for general use. With the development of technique, surgical outcome, the satisfaction of patient and surgeon will leap within a decade for sure.

---

---

**SY5-5 Robotic surgical systems in colorectal surgery today**

Streaming  
Room 1

**Author:** Narimantas Evaldas Samalavicius

**Organisation:** Chief of Surgery and Director of Robotic Program, Klaipeda University Hospital, Klaipeda, Lithuania

**Abstract:**

Robotic system by Intuitive Surgical is currently dominating robotic technology in colon and rectal surgery, including their last innovations - da Vinci Xi® and da Vinci SP® robotic platforms. However, in recent years some other robotic platforms are either on the market already or emerging. This leads towards competition on robotic surgical market, and hopefully for hospitals – less expensive and more sophisticated robotic techniques. Flex® Colorectal Drive robotic system by Medrobotics has been launched for transanal and transoral approach, but so far even limited reports in the literature are more related to oral rather than transanal surgery. Senhance® robotic system by Transenterix has been first used in gynecology, but today already some data exists on feasibility and safety of this robotic system in colorectal surgery – as well as advantage of haptic sensation and camera control by the surgeons eye. More recently Versius® has been launched by CMR Surgical Ltd., but data in the literature are mostly on preclinical use. In 2020, major three robotic platforms – Sport® by Titan Medical, Hugo® by Medtronic and Verb® by GOOGLE and J&J – were expected to reach the market but it seems some additional time will be still needed for that. A great number of other, including national, robotic projects are developed, some already available on national level, some in preclinical use – Revo-I® from Korea, MicroHand S® from China, Avatera® from Germany etc.

Current existing evidence on use of novel robotic systems in colon and rectal surgery and their features are discussed during this presentation.

---

---

**SY5-6**   **Robotic trans-anal minimally invasive surgery (rTAMIS): current technique and outcomes on the DaVinci Xi and DaVinci SP platforms.**

**Streaming  
Room 1**

**Author:** Philip B. Paty

**Organisation:** Professor of Surgery, Weill Cornell Medical College, Attending Surgeon, Colorectal Surgery Service, Memorial Sloan Kettering Cancer Center, New York, USA

**Abstract:**

In the USA over the past two decades, multiple concurrent factors have led to the increased use of trans-anal local excision for rectal adenocarcinoma: greater early diagnosis by screening colonoscopy, better preoperative staging with rectal MRI, increasing and more effective use of neoadjuvant therapies, an aging population, and the refinement of minimally invasive surgery using endoscopic, laparoscopic, and robotic platforms. This lecture will present technique and outcomes of robotic trans-anal minimally invasive surgery (rTAMIS) for the DaVinci Xi and DaVinci SP platforms.

---

---

**SY6-1 Long-term functional outcome after laparoscopic ventral rectopexy for external rectal prolapse**

Streaming  
Room 1

**Authors:** Akira Tsunoda<sup>1</sup>, Tomoko Takahashi<sup>1</sup>, Satoshi Matsuda<sup>2</sup>, Kenji Sato<sup>1</sup>, Hiroshi Kusanagi<sup>1</sup>

**Organisation:** <sup>1</sup>Department of Gastroenterological Surgery, Kameda Medical Center, Chiba, Japan; <sup>2</sup>Department of Pediatric Surgery, Kameda Medical Center

**Abstract:**

*Introduction:* Although long-term crude outcomes of laparoscopic ventral rectopexy (LVR) for external rectal prolapse (ERP) are documented, the repetitive functional and quality of life (QOL) assessments are scarce. This study assessed the long-term annual functional results and QOL after LVR for ERP.

*Methods:* Fifty-eight patients who underwent the procedure between September 2011 and April 2015 were included. This study was a retrospective analysis of prospectively collected data. The Fecal Incontinence Severity Index (FISI), the Constipation Scoring System (CSS) and quality of life (QOL) instruments [Short-Forum 36 Health Survey, Fecal Incontinence QOL (FIQL) scale] were administered before and after operation.

*Results:* There was no mortality and major morbidity. After a median follow-up of 63 (6-96) months, recurrence of ERP was noted in 1/58 (2%). There were no mesh-related erosion. The mean (95% CI) FISI score was significantly reduced at 3 months [35 (31-39) vs 14 (10-17),  $P<0.0001$ ] and remained significantly reduced at each postoperative time until 5 years. The mean (95% CI) CSS score was significantly reduced at 3 months [14 (12-15) vs 8 (6-10),  $P<0.0001$ ] and remained significantly reduced at each postoperative time until 4 years. No patients developed new-onset constipation. All of the FIQL scales significantly improved overtime until 5 years. All of the SF-36 scales were significantly improved at 3 and 6 months, but none of the scales significantly improved over time more than 2 years.

*Conclusion:* LVR for ERP was associated with low morbidity and recurrence and a long-term improvement in function and FI-specific QOL.

---

---

**SY6-2 Perineal approaches for rectal prolapse****Streaming  
Room 1****Author:** Ronan O'Connell<sup>1,2</sup>**Organisation:** <sup>1</sup>Surgery, RCSI; <sup>2</sup>University College Dublin, Dublin, Ireland**Abstract:**

There are over 100 different techniques described for treatment of rectal prolapse. It is unsurprising that one approach cannot be considered superior or applicable in all circumstances. Perineal approaches are long established and have the advantage of avoiding a trans-abdominal approach that, open, laparoscopic or robotic, have as inherent risks and need for general anaesthesia. Perineal operations are considered to have higher recurrent rates but less morbidity making the perineal approach more applicable in frail patients.

The two principal perineal techniques are the Altemeier and the Delorme operations. It is important to have both techniques available as on occasion the operator may consider resection of the prolapsing segment more appropriate than plication. A recent systematic review concluded that perineal operations are associated with a relatively high incidence of recurrence but acceptably low complication rate. Definitive conclusions on the superiority of any procedure could be reached. (Sameh HE Int J Sur 2017).

---

## SY6-3 Treatment results of laparoscopic sutured rectopexy in our department

Streaming  
Room 1

**Authors:** Taichi Yabuno<sup>1</sup>, Jyoji Kuromizu<sup>2</sup>, Makoto Matushima<sup>2</sup>, Munenobu Tanaka<sup>1</sup>, Yume Minagawa<sup>1</sup>, Takuto Funatuya<sup>1</sup>, Yoshihisa Enomoto<sup>1</sup>, Yosiro Fujii<sup>1</sup>, Masazumi Takahashi<sup>1</sup>, Yasuhisa Mochizuki<sup>1</sup>

**Organisation:** <sup>1</sup>Department of Gastrointestinal Surgery, Yokohama Municipal Citizen's Hospital, Kanagawa, Japan; <sup>2</sup>Department of Gastrointestinal Surgery, Matsushima Hospital, Kanagawa, Japan

### Abstract:

Background: In our department, laparoscopic sutured rectopexy (LSR) is the standard surgical procedure as long as the patient can tolerate the surgery. The surgical method is characterized by preserving the lateral ligament, fixing the mesorectum by direct suturing, and reshaping the inversion part to close the mesentery on both sides. The aim: This study was to investigate the surgical outcome and postoperative defecatory function. Method: The subjects were 75 patients underwent LSR and were evaluated retrospectively for defecation function before and 6 months after surgery. Regarding defecation function, the anal pressure test and the fecal incontinence evaluation were compared before and after surgery. Result: The median patient age was 77 years (39-94). There were 13 males and 62 females, Median surgery time was 139 minutes (87-298 minutes). Median blood loss was 5 ml (5-80 ml). The median length of postoperative stay was 8 days (4-60 days). The median observation period was 19 months (8-27 months), and no recurrence was observed. In the change of intraanal pressure, the maximum anal resting pressure (MRP) improved preoperatively 20.8 (8.9-78.1) and postoperatively 24.2 (4.5-62.1), which was significantly postoperatively improved ( $p < 0.0001$ ). On the other hand, the maximum anal squeeze pressure (MSP) was 97.4 (25.3-451) preoperatively and 100 (30-570) postoperatively, no significant difference was observed. Regarding defecation function, FISI was 24 (0-51) before surgery and 8 (0-45) after surgery, and Wexner score was 8 (0-19) before surgery and 4 (0-17) after surgery. Both tests showed a significant improvement after surgery ( $p < 0.0001$ ). Conclusion: Our LSR not only cured the prolapse of the rectum but also improved the defecation function.

---

**SY6-4 Surgical treatment of rectal prolapse**

**Streaming  
Room 1**

**Author:** Yasuko Maeda

**Organisation:** Department of Colorectal Surgery, Western General Hospital and University of Edinburgh, Edinburgh, United Kingdom

**Abstract:**

Decision making for treatment of rectal prolapse has become more complex in recent years, due to increasing number of available options. Restoration of anatomy is the main objective yet whether to approach this abdominally or perineally is not always straight forward. The choice of operation needs to take into account patients' co-morbidities, level of prolapse take-off, thickness of prolapse (mucosal or full-thickness), and severity of functional symptoms. Recurrent prolapse remains challenging with higher recurrence rate regardless of chosen surgical approach.

Mesh rectopexy has been used widely for 'internal' prolapse yet this has become increasingly controversial in Europe. Whether rectopexy achieves sufficient improvement of functional symptoms is still debated. Long-term complications, such as mesh erosion and chronic pain, is a major concern.

The talk will give a snapshot of current status and outline the areas of controversies.

---

**Author:** Sung Hwan Hwang

**Organisation:** Head of Busan Hang-un Hospital, Hang-un Hospital Bumcheon Campus

**Abstract:**

The aim of surgical procedures for rectal prolapse is to restore the prolapsed rectum to normal or improve symptoms without complication. Correction of related pathology is also recommended if there is concomitant pelvic organ prolapse or other pathology such as rectocele, cystocele. And symptoms like constipation, fecal incontinence, micturition problems, or pelvic pain should be of concern as well.

Surgical option depends on the patient’s conditions such as age, health status, severity, concomitant prolapse, previous op. history, or bowel symptom like constipation or incontinence. Factors for selecting the surgical option include the surgeon’s preference and experience with certain surgical techniques, as well as equipment available at the hospital.

Types of rectal prolapse surgery are: 1) Rectal prolapse repair through the abdomen; 2) laparoscopic rectal prolapse surgery (Laparoscopic repair); and 3) rectal prolapse repair around the anus (perineal repair). But abdominal incision is now being abandoned.

Risks of rectal prolapse surgery include bleeding, bowel obstruction, damage to nearby neurovascular bundles or organs, narrowing of the bowel opening, infection, fistula, recurrence of rectal prolapse, and development of new or worsened constipation.

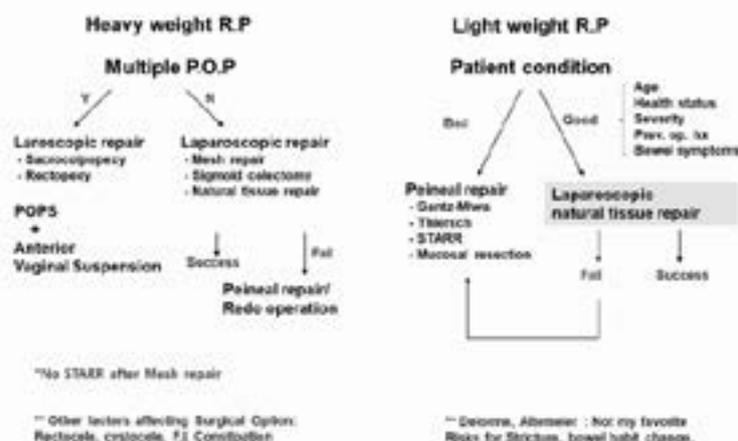
Many surgeons use mesh during laparoscopic repair to support, reinforce, or replace weakened supporting tissues. However, using mesh also can fail, and prolapse may return. And mesh may limit motion of the rectal wall and influence compliance. It can result in incomplete evacuation and lead to symptoms of bowel malfunction such as constipation or fecal incontinence.

Laparoscopic natural tissue repair for rectal prolapse surgery, therefore, might be ideal for correction of pathology while minimizing complications. The procedure of natural tissue repair for rectal prolapse requires high level of familiarity with nearby anatomies of the lower rectum, especially the lead point of rectal prolapse, which ligaments have been weakened resulting in the development of symptoms, which are the important supporting structures near the low rectum, and how the surgeon can correct this without injuring adjacent organs or neurovascular bundles.

Laparoscopic natural tissue repair is suitable for patients who have lightweight rectal prolapse, bowel symptoms of fecal incontinence and/or constipation, wish to continue regular sex intercourse, have plans for delivery, or no concomitant pelvic organ prolapse.

Below is my surgical treatment strategy for rectal prolapse. In this time, I would like to talk about one of them, the natural tissue repair. I will explain about indications of natural tissue repair and the precise procedures in my surgical technique during the symposium. See you at ISUCRS 2020.

## Rectal Prolapse Surgery (My Strategy)



**Author:** Antonio Longo

**Organisation:** Palermo, Italy

**Abstract:**

The idea to propose for an innovative surgical approach to treat the prolapses of the three pelvic organs comes from the clinical observation, through hundreds of MRI dynamic pelvigraphies, that the genital prolapse, drawing down the Douglas pouch, causes inevitably also an internal or external rectal prolapse (Fig. 1; Fig. 2).

In fact is the pelvic peritoneum that covering the upper rectum, is the only one structure that support the upper and middle rectum (Fig. 3).

As reported in the literature, none common techniques for genital prolapse correct the associated rectal prolapse, and than about 50% of the operated patients suffer from obstructed defecation syndrome. Moreover, the rate of relapse is about 30%. The proposed POPS procedure consists in fixing a V shaped prolene mesh to the lateral fornix of the vagina and to the anterior or posterior fornix according to the prevalence of the vagina wall prolapse. The strips of the mesh are threaded through two subperitoneal tunnels and after optimization of the vagina suspension are fixed to the lateral muscle of the abdomen (Fig. 4).

To this basic step a deep Douglas pouch correction can be associated, by fixing the peritoneum to the mesh. In the case of obstructing residual recto-anal prolapse or voluminous rectocele, it can be corrected by the STARR procedure.

The operation starts by introducing and fixing a Circular Anal Dilator, this allows evaluation of the internal rectal prolapse, before and after the vaginal suspension.

The laparoscopic approach is almost always possible. One trocar of 1 cm and two trocar of 0,5 cm of diameter are sufficient. The V shaped mesh has two 30 cm long strips.

Making a small incision, 2 cm above and 2 cm posterior to the anterior superior iliac spines, cutting the fascia and disassociating the muscular fiber up to the subperitoneum, a curved laparoscopic forcep is introduced. Following, under laparoscopic vision, the tip of the forceps, a subperitoneal tunnel can safely be carried out. The tunnel is performed 2 cm above the peritoneal reflection of the colon. Having reached the third lateral of the round ligament, the forcep passes through the broad ligament of the uterus, which is tractioned upwards and medially to facilitate the manoeuvre. A spatula introduced into the vagina exposes the anterior and lateral vaginal fornix. Having opened the peritoneum, on the branches of the forceps, a strip of mesh is grasped and moved outwards. The same steps are performed on the opposite side. The mesh replaces the cardinal ligaments failure that are the main suspensory ligaments of the vagina. The passage through the broad ligament allows crossing well above the iliac vessels and the urether, avoiding risks of lesions.

The mesh is sutured to the lateral fornixes of the vagina and to the anterior or posterior fornix according to the prevalence, respectively, of cystocele or posterior colpocele. The mesh must be peritonised. In hysterectomized patients, the mesh is tunnelled and fixed with a continuous suture to the vaginal vault.

After reduction of insufflation, the suspension of the vagina is modulated pulling the strings, achieving the cystocele and the internal rectal prolapse reduction. The mesh is sutured on both sides to the external oblique muscle and at least 5 cm of strip are tunneled under the muscular fascia, obtaining a soft and dynamic organs suspension. The preservation of the uterus, in addition to functional benefits (Tab. 1), avoids related surgical complications and negative psychological effects on patients. Finally, if an obstructive recto-anal prolapse persists, or in the presence of rectocele forming a colpocele, associating the STARR procedure, an optimal correction of the pelvic organs prolapse can be obtained, as well as a better perineal ascent.

A ten years long follow up with 1500 patients enrolled has demonstrated excellent functional and anatomical outcomes.

By modifying the POPS is also possible to correct the primary external rectal prolapses. We called this procedure SIR (Soft Intraperitoneal Rectosuspension). The mesh is shaped and tunneled in the subperitoneum, exactly as in the POPS (Fig. 5). The suspension of the rectum is obtained including the mesh, by 4 half purse-strings sutures, between the posterior vagina vault, the distal reflection of the rectal peritoneum and the redundant Douglas pouch. The advantages of the technique are (Tab. 2): no need any detachment of the rectal ligaments; the mesh is not in contact with the muscular layer of the rectum, but with the anterior peritoneum; the rectum is not fixed to a rigid structures (tension free suspension), so maintains almost a physiological mobility because can slide on the sacrum and on the posterior vagina wall. Moreover, the Douglas pouch remains free and this is very important for a physiological defecation. Is achieved, at the same time, the correction of the deep Douglas or associated enterocele. Due to these surgical originality, the SIR avoids the typical complications of all other rectopexy: constipation; erosion of the mesh; anastomotic dehiscence in case of resection rectopexy.

The preliminary results are excellent (Tab. 3).

However, we reserve the SIR in cases of external prolapse in which the rectum retains a normal muscular structure and length.

**TAB. 1 POPS ADVANTAGES**

- Respects the suspension
- Respect of the pelvic anatomy
- No hysterectomy: the pelvic anatomy divided in two compartments
- Avoid complications related to hysterectomy
- Physiologic uterus for patient
- Avoid complications related to colix or mesh between vagina and bladder-vagina and fixation
- The contact of the mesh with the peritoneum avoids adhesions, fistulas, erosions, as well as the mesh for hemostasis

**TAB. 2 ADVANTAGES OF SIR**

- No direct contact between mesh and rectum
- Tension free suspension
- Douglas open, strain effective
- The rectum can slide on the sacrum and vagina
- Effective in ODS and avoids constipation de novo
- Improve fecal incontinence

**SIR OUTCOMES IN N° 75 Pt.**

FOLLOW UP		GROUP (n=75)	AVERAGE (n=75)
CONSTIPATION	PREOP 41 (54%)	POSTOP 4 (5%)	
FECAL INCONT.	PREOP 16 (21%)	POSTOP 2 (3%)	
<b>COMPLICATIONS</b>			
N° 1 SUBPERITONEAL HERNIATION			
<b>RELAPSE 0%!!!!</b>			

**Author:** Tetsuo Yamana

**Organisation:** Department of Colorectal Surgery, JCHO Tokyo Yamate Medical Center, Tokyo, Japan

**Abstract:**

Defecatory disorders, such as fecal incontinence and constipation, are not life-threatening problems, but are substantially annoying and affect quality of life. Most patients are managed with non-surgical treatment including dietary manipulation, medications, and physiotherapy. However, some intractable patients who fail to improve with conservative treatment, require surgery. For the past 20 years, we have performed several procedures in patients with defecatory disorders. This is a brief overview of our results.

**I. Fecal incontinence**

We usually perform sphincteroplasty in patients who have had obstetric injury at the anterior part of the external anal sphincter. When sphincter injury occurs after anal surgery or traffic accidents, this procedure is only indicated in certain cases. Over the years, more than 50 patients have undergone this procedure. The mean Wexner score has improved from 12 to 4.

For patients without sphincter injury or those who failed with sphincteroplasty, sacral neuromodulation is our choice. We have performed this on more than 40 patients, including idiopathic, post rectal surgery, etc.; and, the mean Wexner score has improved from 11 to 5.

**II. Constipation**

Rectocele causes constipation in certain patients, resulting in especially difficult evacuation. A protrusion size of >3 cm, barium trapping are our indicators for surgical repair. We have performed transvaginal anterior levatorplasty in more than 100 cases with a success rate of about 80%. On some patients with large rectocele with vaginal prolapse, we have performed laparoscopic rectopexy concomitant with transvaginal anterior levatorplasty.

In cases of colonic inertia, our choice has been laparoscopic total colectomy. It is safe and effective, even in elderly patients.

---

---

**SY7-2 Present situation and future in the management of anorectal dysfunction**

**Streaming  
Room 2**

**Author:** Yasuko Maeda

**Organisation:** Department of Colorectal Surgery, Western General Hospital and University of Edinburgh, Edinburgh, United Kingdom

**Abstract:**

The main strategy to manage faecal incontinence and constipation has not changed greatly over the last decades: starting with conservative treatment and gradually move up to surgical options. In recent years, the options of conservative treatment have increased significantly, as a variety of protective measures (plugs, insert, underwear) and irrigation devices have become available. The number of minimally invasive surgical options are limited to more or less sacral neuromodulation and injectable bulking agents, and the latter has evolved from injecting liquid material to implantation of solid device. The mechanism of any of these treatment remain elusive.

The key is managing patients' expectation with a thorough information giving and their involvement in making decisions.

The talk will cover details and review some of the exploratory data of what may come in future.

---

---

**SY7-3** A new concept of the anatomy of the levator ani and anal sphincter mechanism and the physiology of defecation

Streaming  
Room 2

**Author:** Ali A. Shafik

**Organisation:** <sup>1</sup>Department of Colorectal Surgery, Faculty of Medicine, Cairo University, Cairo, Egypt; <sup>2</sup>President of Egyptian society of Colon and Rectum

**Abstract:**

A review of the new concepts of the anatomy of the levator ani, anal sphincter mechanism and the physiology of defecation is presented. The hiatal ligament, levator hiatus, and their relationship with intra-hiatal structures. The external sphincter is a triple-loop system; each loop can function as a separate sphincter through voluntary inhibition action and mechanical compression. A new technique for repair of rectal incontinence is presented, which depends on inducing continence not only by mechanical compression, but also by voluntary inhibition. The mechanism of defecation and rectal continence is described and four types of incontinence presented. Also, the mechanism of both the levator dysfunction syndrome and prolapse is demonstrated and a technique of repair is presented. The study defines two types of rectal anomalies; suprahiatal and infrahiatal.

---

**Author:** Antonio Longo

**Organisation:** Palermo, Italy

**Abstract:**

The incidence of faecal incontinence is variously estimated in literature, ranging from 1.4% to 19.5%. Anal incontinence due to sphincter causes is estimated between 2% and 7% of the population, sexes incidence women/men of 8/1. The causes of anal incontinence are multiple. Functional causes: sphincters anatomically intact, but hypotonic for central or peripheral neuropathies, for myopathies, for dismetabolic diseases, etc ... Anatomical causes: congenital or acquired sphincter defects. The most frequent causes of acquired sphincter defects are obstetric injuries and anorectal surgery, traumatic causes. Our original surgical proposal is addressed to anal incontinences due to anatomical defect of the anal sphincters. For these types of incontinence have been proposed different interventions. Ranging from direct sphincteroplasty for minimal defects, to graciloplasty for major defects, etc ... It is clear, from the literature, that all the proposed interventions for the reconstruction of the sphincters, in cases of extensive damage, can not be considered satisfactory.

**Technique**

The technique consists in crossing, around the anal canal, two flaps dissected from the puborectalis muscle to reconstruct the continuity of the sphincters. After ultrasound evaluation of the extension and location of the sphincter defect, the length of the flaps to be isolated is programmed. The perineal cutaneous incision, extended from the anus to the vaginal fork, may be H shape in cases of reduction of the perineal rectovaginal space, or only two parallel perineal skin incisions leaving a cutaneous bridge in the rectovaginal space. In males we always perform two parallel incisions. Bilaterally identified the branches of puborectalis muscle, starting from the pubic side, two flaps of variable length are prepared. The dissection is always conducted up to middle part of the anal orifice. With the technique it is possible to repair partial defects of the anal sphincters or circumferential defects for multiple fragmentations. In case of partial defects, the tips of the flaps are sutured, with overlapping technique, to the residual anal sphincter. In case of circumferential repair, the two tips of the flaps are sutured on the posterior anal raphe. The operation is completed by closing, with a single stitch, the space created between the two residual branches of the puborectalis muscle and the neosphincter. The rational principle of the technique is based on the physiological data that the puborectalis muscle and the striated anal sphincters, are both innervated by the pudendal nerve and then have simultaneous contraction and relaxation. Therefore, we have theorized that the puborectalis flaps could physiologically and anatomically replace the anal sphincters. Obviously, the technique is not feasible in cases of hypotrophic puborectalis muscle or in cases of innervation defects. The pre-operative evaluation must be very scrupulous (TAB. 1).

**Results**

The casuistica is very poor, only 8 cases, 6 women and 2 men (TAB. 2). Postoperative complications were a suppuration of the perineal wound and a case of erosion of a fragment of vycril mesh used to reinforce the suture of the muscular flaps. Extraction of the mesh fragment solved the complication. The results were very encouraging (TAB. 3-4). The most encouraging fact is that this is the only technique in which it is possible to demonstrate a significant difference in the anal tone at rest and at squeeze. In addition, until the follow up at 2 years, the sphincter tone and the trophism of the flaps not changed.

**TAB.1 PREOPERATIVE EXAMINATION**

- Anal manometry
- Pudendal nerve terminal motor latency
- Rectal volumetry
- Rectoanal inhibitory reflex
- Three-dimensional endoanal sonography
- MRI Pelvic
- RX defecography

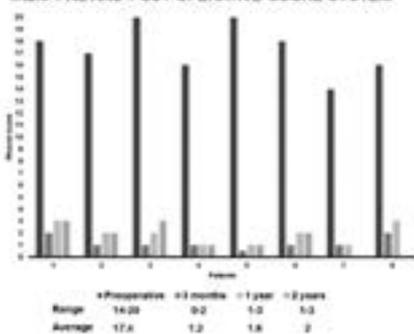
**TAB. 2 CASUISTICA**

**Causes of anal sphincters injuries**

- N° 4 obstetric trauma (all episiotomy)
- N° 2 post-fistulectomy (both men)
- N° 2 sphincters fragmentation post trauma

**The defect of the sphincters ranging from 120° to 360° average 210°**

**TAB.3 PRE AND POST OPERATIVE SCORE SYSTEM**



**TAB. 4 RECTAL MANOMETRY**

<b>Preoperative:</b>	At rest	Range 0-15 mmg	Average 6 mmg
	Squeeze	Range 0-25 mmg	Average 9 mmg
<b>Postoperative:</b>	<b>3 MONTHS</b>		
	At rest	Range 15-65 mmg	Average 53 mmg
	Squeeze	Range 45-85 mmg	Average 73 mmg
	<b>1 YEAR</b>		
At rest	Range 10-70 mmg	Average 51 mmg	
Squeeze	Range 45-85 mmg	Average 68 mmg	
<b>2 YEARS</b>	NOT SIGNIFICANT DIFFERENCES		

**Author:** Soon Sup Chung

**Organisation:** Ewha Womans University, Seoul Korea

**Abstract:**

Obstructed defecation syndrome (ODS) is a type of constipation characterized by fragmented stools, need for straining at defecation, sense of incomplete evacuation, tenesmus, urgency, pelvic heaviness and self-digitation. Transanal-vaginal ultrasound (US), defecography, anorectal manometry and the balloon expulsion test, entero defecography, dynamic perineal US and magnetic resonance imaging defecography, pudendal nerve motor latency and psychological evaluation may be useful for the assessment of ODS.

**CONSERVATIVE TREATMENT**

Fiber diet, plenty of water and bulking laxatives are the most used frequently conservative treatments of ODS. Hydrocolonotherapy or lavage, consisting of retrograde large bowel irrigation with warm water through a tube gently inserted into the anorectum, also has a positive role in the treatment of ODS. Anismus may be also cured with yoga exercises and botulinum toxin A. Rectocele and recto-rectal intussusceptions may be successfully treated with pelvic floor rehabilitation. Psychological counselling is helpful in patients with depression or anxiety.

**SURGICAL TREATMENT**

Options for treating ODS: (1) to perform either a resection or a plication or a pexy in case of internal mucosal prolapse; (2) to reinforce the rectovaginal septum and/or, again, resect the redundant mucosa, in case of significant rectocele; and (3) to perform myotomy in case ODS is due to a muscular disorder.

Transanal rectal prolapsectomy may be carried out in case of significant (2nd or 3rd degree)rectal internal mucosal prolapse or recto-anal intussusceptions. In case of high rectocele and large mucosal prolapse, the whole anterior aspect of the rectal mucosa is excised transanally, followed by a plication of the denuded rectal muscle., An over-running suture on the anterior midline starting from the dentate line up to the apex of the rectocele and then reversal, going back to the dentate line is useful for smaller prolapse and rectocele. Resection rectopexy, the internal Delorme procedure or circumferential rectal mucosectomy with rectal muscle plication, sacral rectopexy and ventral laparoscopic rectopexy have been used with satisfactory short-term outcomes when dealing with ODS due to recto-rectal intussusception, but the long-term outcomes are less encouraging. Stapled procedure(STARR) is one of the options for treating ODS, but the clinical outcome is still controversial.

The outcome of surgery alone for ODS may be good in the short term, but it worsens over time, probably due to the fact that both the diagnosis and the management of the "occult" lesion(s) causing symptoms are neglected. Several conservative treatments are available and should be attempted prior to surgical management of ODS. The key to successful treatment of ODS appears to be a multidisciplinary approach.

---

**SY7-6 Present situation and future in the management of anorectal dysfunction**

Streaming  
Room 2

**Author:** Klaus E. Matzel

**Organisation:** Department of Surgery, Section Coloproctology, University of Erlangen Nuremberg, Erlangen, Germany

**Abstract:**

Over the last years an increased understanding that the clinical presentation of constipation/evacuation disorders and fecal incontinence may overlap has developed, such as patients with rectal intussusception often presenting with the leading symptom of incontinence as a secondary effect of obstructed defecation. This resulted in an adjustment of the diagnostic workups and treatment algorithms. The treatment should target the primary cause of the functional disorders. Treatment choice for evacuation disorders is shifting towards ventral mesh rectopexy. Sustainable clinical benefit, low risk of side effects and complications contribute to its increasing acceptance. For fecal incontinence treatment options decreased as devices required for several techniques, like dynamic graciloplasty, artificial bowel sphincter and magnetic sphincter have been withdrawn from the market. The mainstays of surgical interventions for fecal incontinence currently are sacral neuromodulation and sphincter repair – the use of the latter being limited to patients presenting with sphincter gaps. Some of the novel techniques, like Sphinkeeper, show encouraging preliminary results. With future refinement of the outcome assessment, it needs to be seen which of the more established and the new techniques will sustain the test of time.

---

---

**SY8-1 The anal sepsis (abscess and fistula) patterns**

Streaming  
Room 2

**Author:** Arun Rojanasakul

**Organisation:** Colorectal surgery , King Chulalongkorn Memorial Hospital, Bangkok, Thailand

**Abstract:**

Anal sepsis patterns are pathways of anal abscess and fistula spreading around anogenital organs. These patterns are constant because of two reasons. First, anogenital muscles and spaces are constant. Second, anal sepsis spreads between anogenital muscles, not through the muscles.

Recently, knowledge gained from the study of anal anatomy in fresh cadaver, imaging studies and the LIFT procedure enable surgeons to understand various patterns of anal sepsis as follow: 1 Low intersphincteric, 2 Low transphincteric, 3 Anterior high transphincteric, 4 Posterior high transphincteric, 5 High intersphincteric. These patterns occur individually or rarely occur in combination. The most common combination and also the most complex anal sepsis is the combination of posterior high transphincteric (4) and high intersphincteric (5).

Understandings of anal sepsis patterns facilitate interpretation of anal sepsis imaging studies and selection of surgical options relevance to each pattern. The anal sepsis patterns is not an anal fistula classification but it is the new access to the anal sepsis, waiting for international attention and consensus.

---

**Author:** Hyungkyu Yang

**Organisation:** Colorectal surgery, Yang Hospital, Seoul, Korea

**Abstract:**

[Purpose] Hemorrhoids are not varicosities, instead vascular cushions that slide down prolapsed. Hemorrhoidal tissues are normal anatomic structures to keep anal continence. The most of previous hemorrhoidectomy methods tend to remove excessive amounts of hemorrhoidal tissues, possibly cause incontinence or stenosis. We also try to lift-up descended hemorrhoids back to upper normal position of anal canal. We called this technique lift-up hemorrhoidectomy. We introduce a lift-up hemorrhoidectomy.

[Methods] A retrospective study was done with 332 patients (163 males, 169 females) who underwent hemorrhoidectomies from Nov. 2017 to Oct. 2018. Under spinal anesthesia, the patient was placed in a prone jack-knife position. After narrow incisions on the mucosa on pile, a bilateral submucosal dissection was performed. The pedicle was ligated by transfixing sutures 2 or 3 times with 2-0 chromic catgut to lift-up.

[Results] The mean operation time per hemorrhoids pile was 14.5 minutes. The mean hospital-stay was 1.9 days. Acute and delayed postoperative anal bleeding occurred in 2 (0.6%) and 2 (0.6%) patients. 4 patients (1.2%) had voiding difficulty. 2 patients (0.6%) showed mild anal stenosis and 4 developed skin-tag (1.2%).

[Conclusion] It is desirable to keep the normal structure of the anal canal by removing as little of the cushions as possible. Our lift-up hemorrhoidectomy method are physiologic technique and show good results, an easy operative method when compared with other hemorrhoidectomy methods.

---

---

**SY8-3 Primary sphincter repair for complex anal fistula**

**Streaming  
Room 2**

**Author:** Niranjan Dhanraj Agarwal<sup>1,2,3,4,5</sup>

**Organisation:** <sup>1</sup>General surgery, maharashtra university of health sciences; <sup>2</sup>Asst. professor department of surgery bombay hospital ; <sup>3</sup>Hon surgeon wockhardt hospital; <sup>4</sup>Mis proctology course faculty for cemast ; <sup>5</sup>Chief surgeon salasar nursing home, Bhayandar (west), Maharashtra, India

**Abstract:**

Anal fistula has been a perplexing problem for surgeons globally. Multiple modalities of treatments and different surgical techniques have been introduced to reduce recurrences and incontinences. Wide variations in etiology and the amount of sphincter crossed by the fistula tracts have always posed questions on the available methods towards their acceptability as a gold standard treatment. The complete removal of infected source and primarily repairing the sphincter is emerging as a procedure with highest cure results so far with minimal minor incontinent issues. This technique has in fact improved the continence in an already incontinent patient with recurrent fistula. I present techniques of primary sphincter repair for complex anal fistula.

---

---

**SY8-4 Anorectal abscess - One stage v/s Two stage surgery**

Streaming  
Room 2

**Author:** Parvez Sheikh

**Organisation:** Colorectal surgeon practicing in Mumbai, India; Department of Colorectal Surgery at Satifee Hospital Mumbai, Mumbai, India

**Abstract:**

Anorectal abscess & anal fistula are generally 2 stages of the same disease process – abscess denotes the acute part while anal fistula denotes the chronic part. Hence it seems logical to treat both these conditions by a similar surgery. However, there are some differences in the consequences of the management of these 2 different conditions.

All abscesses need to be drained – there is no ambiguity about that. There is no role of antimicrobial therapy as a conservative treatment for an abscess. The incidence of a persistent anal fistula after drainage of an abscess can range anywhere from 31% - 88%. This incidence can be reduced significantly if one were to tackle the fistula tract in the first instance. There are some disadvantages to this – increased risk of faecal incontinence & the fact that primary fistula surgery may be technically difficult to perform in the presence of a large abscess. There is also the fact that not all patients whose abscess have been drained need surgery for anal fistula.

Most of the early published data was non-conclusive, but recent data seems to favour a one stage surgery for abscess as the perceived risk of incontinence is really not that much. This risk can be further minimised if one were to suture the sphincter that was divided during fistulotomy. In conclusion, one stage surgery would be preferable for an anorectal abscess if one has the expertise & experience & one can locate the internal opening & tract easily.

---

**Author:** Jeng-Kai Jiang

**Organisation:** <sup>1</sup>Div. of Colon & Rectal Surgery, Dep. Of Surgery, Taipei Veterans General Hospital; <sup>2</sup>National Yang-Ming University, Taipei, Taiwan

**Abstract:**

Senhance Surgical Robotic System is a new surgical robotic platform using in various filed of laparoscopic surgery, features with haptic feedback, and the manipulation capability of the robotic camera via an eye-tracking device. This report will present our experience on Senhance robotic-assisted colorectal surgery. Feasibility and safety of this new robotic system will be addressed.

Since June 2019 Senhance Surgical Robotic System was used to treat patients with colorectal lesion. Data were retrieved from a prospectively collected database, including demographic data, surgical data, pathologic results, and short-term follow-up data. To December 2019, a total of 46 patients were enrolled with a mean age of 63.1 y/o and a mean BMI of 23.8. Colorectal cancer is the most common indication for Senhance robotic surgery (39 patients, 84.8%). Anterior resection and right hemicolectomy were the two leading operations performed during this study period, 52.2% and 23.9% respectively. For all the operations, median docking time was 25mins (range 5~62 mins), median console time was 112 mins (range 56~230 mins) and median total operation time was 283 mins (range 160 ~ 515 mins). The median blood loss was 50cc with a range of 30~700cc. The median number of harvest lymph nodes in colorectal cancer patients was 20. The median post-OP hospital stay was 8 days. Three patients (6.5%) developed Clavien-Dindo grade IIIb complications. Elderly age, advanced ASA stage (III~IV), and right-sided colon surgery were associated with the occurrence of complications more severe than grade III.

The current report had identified the feasibility and safety of the utility of Senhance robotic system in colorectal surgery. Our primitive experience indicated that elderly patients, advanced ASA classification, and right-sided colon surgery might be associated with postoperative complications. Nonetheless, these findings should be further testified as we continue to operate patient using Senhance robotics systems.

**SY8-6 Doppler guided dearterialization “THD with mucopexy, is an established technique for treating hemorrhoidal disease. Our experience and review of the literature**

Streaming  
Room 2

**Author:** Shosha Mano Lindita

**Organisation:** American Hospital 1, Tirana, Albania

**Abstract:**

**INTRUCTION:** Transanal hemorrhoidal dearterialization is an innovative technique to treat hemorrhoids using a specially designed proctoscope for Doppler-guided transanal ligation of terminal branches of the SRA,. The **Doppler signal makes it possible** for the surgeon **to precisely locate hemorrhoids arterial vessels and ligate them**, reducing excessive blood flow to hemorrhoid cushions. resulting in decongestion of piles.

**PURPOSE:** To assess the efficacy of THD & mucopexy and analyze the results of our experience regarding postoperative pain, complication, recurrence , patient satisfaction with transanal hemorrhoidal dearterialization device .

**METHODS:** The THD SLIDE proctoscope was used for identifying and suturing terminal branches of SRA. We included the patients with II-IV degree piles and associated anal benign disease. The first THD surgery in the American hospital was performed on December 2009, and we study 520 patients in a 10 yrs experience.

**RESULTS:** We treated 510 patients from 2010-2020. Mean age 43 yrs (18-82 yrs). Male 56 %(290), female 44%(220). Piles II degree 22,5%(140), III 52%(260), IV 28%(140). Hemorrhoidal disease with associated another anal disease was seen in 55,6%(278) of patients, respectively with chronic anal fissure in 16%(80), anal polyp in 8%(40), perianal condyloma 3,6%(18), anterior mucosal rectal prolaps 22%(110),anal fistula 3%(15). In 6(1,2%) cases, the THD was used to control massive bleeding from hemorrhoids after anticoagulants(post bypass surgery), and 2(0,4%) case massive bleeding from exteriorization of fecaloma. In 7(1,4%) cases THD was used to stop bleeding after previous open hemorrhoidectomy.

The evaluation of postoperative pain score by FPS: with pain level IV 6,8%(39), level III 44,8%(234), level II 48.4 %(247) of cases.

Postoperative nonsignificant bleeding 16,4%(82), abundant bleeding 0,2%(1), thrombosed external piles 1,8%(9), skin tags 6,4%(32), urinary retention 9%(45), anal itching 1,6%(8). Length of stay 2 days. Satisfaction from surgery was very good 96,5%, moderately good 2%, 1 patient was not satisfied at all from surgery, activity restarted 6-7 days after surgery most of the cases.

**CONCLUSION:** The THD technique is effective in all degree piles, has low complication rate, minimal postoperative pain, no recurrence. Lateral internal sphincterotomy or anoplasty resolves the cases with associated anal fissure. Mucosal Rectopexy helps in cases with anterior mucosal rectal prolapse and weak pelvic floor. Return to normal activity is short, with good satisfaction rate.

**Key words:** THD, piles, bleeding, prolapse, surgery

---

**SY9-1 Current status and measures of stoma complication**

Streaming  
Room 2

**Authors:** Yoshito Akagi, Fumihiko Fujita, Tomoaki Mizobe, Takefumi Yoshida, Takahumi Ohchi, Kenichi Koushi, Hiroyuki Nakane, Suguru Ogata

**Organisation:** Department of Surgery, Kurume University, Fukuoka, Japan

**Abstract:**

The stoma complications lead to diminished quality of life of ostomates. Stoma complications are divided into "early complications" and "late complications". There are necrosis, mucocutaneous separation, stoma site infection and abscess, and high output stoma et.al. as early complications. As late complications, there are parastomal hernia, stoma prolapse, stenosis, and pyoderma gangrenosum et.al. This cause is in the stoma creation and management. Among them, the cause of stoma with difficult management is the patient's factor and the doctor's skill. Peristomal skin complications and parastomal hernia were the most common complications. In this symposium, we talk about our procedure of stoma creation and measure of parastomal hernia.

---

---

**SY9-2 Stoma prolapse - how we manage and prevent?****Streaming  
Room 2****Author:** Kotaro Maeda**Organisation:** International Medical Center, Fujita Health University Hospital, Aichi, Japan**Abstract:**

Stoma prolapse is defined as an increase in the size of the stoma after maturation that requires a change in the appliance or subsequent surgical treatment. In most cases, the prolapse can be managed conservatively. When complications of stoma prolapse make stoma care difficult and/or stoma prolapse affected normal bowel function, surgical managements can be considered. Several local correction methods have been proposed for repair of stoma prolapse, however there is little published literature on outcomes after local repair. We analysed 37 patients (24 men, median age 63 years, range 33–88 years) undergoing 45 local repairs. Stapler repair with anastomosis was performed in 26 repairs, button- pexy fixation in 12 repairs, fascia fixation in 4 repairs, stapler closure in 2 repairs and modified Gant-Miwa procedure in one repair. Selection criteria for procedure was different in each repair. The average operative time and bleeding were minimal in all procedures without mortality. Postoperative morbidity occurred was few and not serious. Recurrence of stoma prolapse after stapler repair with anastomosis, button- pexy fixation, fascia fixation and stapler closure occurred in 3.8, 41.7, 50 and 0 % of repairs respectively during a median follow-up period of 13 months (range 1–120 months). Selection of repair method might depend on general conditions of the patient, expected survival period and stoma reversal. Button-pexy fixation may be used for critical patients or transient stoma. Otherwise, stapler repair with anastomosis or closure can be an option for prolapse repair according to the situation of stoma. For prevention of prolapse, fixation of the intestine might be an option to take from the point of pathophysiology of stoma prolapse.

---

---

**SY9-3 Stoma complications- how we manage and prevent?**

Streaming  
Room 2

**Author:** Ricardo Escalante

Caracas, Venezuela

**Abstract:**

Complication following stoma formation are unfortunately very common.

Some are relatively minor or transient, others can be managed by skilful stoma care, and yet others require surgical operations.

At least 15-20% of patients with a stoma require operatings long-term follow-up.

The importance of meticulous surgical technique in preventing complications cannot be overemphasised.

Sometime, do an a stoma is consider as a minor surgery and it is leave it for surgeons in training.

It is very important to recognize early and late complications, all members of the surgical team should have a training to solve it depending of local and general conditions.

---

---

**SY9-4 Reaching consensus for standardization of ostomy care practice guidelines for nurses and doctors**

Streaming  
Room 2

**Author:** April Camilla Roslani<sup>1,2</sup>

**Organisation:** <sup>1</sup>Department of Surgery, University of Malaya; <sup>2</sup>University Malaya Medical Centre, Kuala Lumpur, Malaysia

**Abstract:**

Construction and care of ostomy practices differ significantly between countries of low, middle and high human development index (HDI) status. Surgeons in low HDI countries are more likely to construct end-colostomies following left-sided resections, yet have limited access to enterostomal therapy nursing services. As such, ostomy care practices may vary widely, resulting in significant morbidity for patients, especially those who require life-long stomas.

In Malaysia, delivery of ostomy care is shared between surgeons, enterostomal therapists and non-specialist nurses, depending on the resources available. The level of specific ostomy care training received is extremely variable. While there is a cost associated with training sufficient ETNs to cope with the workload, this needs to be balanced against the gains in patient quality of life and prevention of complications. A national consensus is therefore needed to guide ostomy care practice which is evidence-based yet recognizes the practicalities of working with limited resources in the local cultural context.

---

---

**SY9-5 Complications following stoma formation: A time based audit**

Streaming  
Room 2

**Author:** Philip Fillor Caushaj<sup>1,2</sup>

**Organisation:** <sup>1</sup>Department of Surgery, University of Connecticut; <sup>2</sup>Hartford Hospital, Hartford, CT, USA

**Abstract:**

Stomarelated complication rates vary between 10% and 70%, possibly because of varying lengths of followup. It is thought that most of the complications improve with time. The aim of this audit was to examine prospectively whether there was any difference in the complication rates at different timepoints during the postoperative follow up period. A prospective study on 408 consecutive patients with either colostomy or ileostomy was conducted over a period of at least 2 years. Both emergency and elective procedures were included. Stoma related complications were analysed postoperatively. Both elective and emergency stomas had similar complication rates. The complication rates for skin excoriation, leakage, soiling or nighttime emptying were higher amongst the ileostomy patients, and these rates did not improve with time. The proportion of patients who had parastomal hernias increased with time (from 0 to 40% in the colostomy and 0 to 22% in the ileostomy group). Daytime leakage, night-time leakage, soiling and nighttime emptying were more problematic in the ileostomy group. The proportion of patients who had postoperative stomarelated complications did not improve with time, but the rate of parastomal hernias in both groups and night-time emptying in the ileostomy group was worse with time. Ileostomy patients had a higher incidence of skin excoriation, leakage, soiling, and night-time emptying, and they should receive additional support.

---

---

**SY9-6 Defunctioning stoma and the related complications in patients with locally advanced rectal cancer after concurrent chemoradiotherapy**

Streaming  
Room 2

**Author:** Jaw-Yuan Wang

**Organisation:** Department of Surgery, Kaohsiung Medical University Hospital, Kaohsiung Medical University, Kaohsiung, Taiwan

**Abstract:**

Colorectal cancer is a major public health problem worldwide, and locally advanced rectal cancer (LARC) is known for its poor prognosis. In the past two decades, we have witnessed dramatic improvements in the outcomes of patients with rectal cancer. Determining which therapeutic modality for LARC has the most satisfactory influence on quality of life and disease outcome is still controversial. LARC treatment is subject to continuous advancement due to the development of new and better diagnostic tools, radiotherapy techniques, and chemotherapeutic agents. Concurrent chemoradiotherapy (CCRT) provides advantages for treating LARC, including reduction in radiation-induced toxicity, decrease in tumor volume, introduction of downstaging, increase in the possibility of R0 resection, enhanced probability of anal sphincter preservation by shrinking large distal tumors, reduction in local recurrence, and increase in survival rates. In low-lying rectal cancer patients receiving CCRT, the anastomosis can be protected by creating a defunctioning stoma after a low anterior resection (LAR) or coloanal anastomosis (CAA). Herein, we review the issue regarding various stoma and the related complications in patients with LARC after CCRT: 1. stoma selection for in patients with LARC receiving CCRT, transverse colostomy or ileostomy; 2. defunctioning loop colostomy-related or ileostomy-related complications and quality of care; 3. early closure or later closure of stoma after total mesorectal excision for LARC.

---

---

**SY10-1 Renal dysfunction after ileostomy with rectal or colonic resection****Streaming  
Room 2**

**Author:** Yukio Nishiguchi, Toru Inoue, Ryoji Kaizaki, Tomohiro Kunimoto, Tadashi Tsukamoto, Chihoko Nobori, Takeshi Nishiyama

**Organisation:** Director of Osaka City Juso Hospital, Osaka, Japan

**Abstract:**

Recently, ileostomy is often created with lower rectal resection as decompression stoma. Such ileostomy often makes renal dysfunction for its high output of intestinal juice. Sometimes ileostomy closure is scheduled earlier than usual.

Recent our ileostomy cases were evaluated for their renal dysfunction and output of ileostomy.

Ten rectal cancers and one transvers colon cancer cases were evaluated from Jan.1st in 2018 to Feb. 29th in 2020, at Osaka City Juso Hospital. They are 71.2 years old in average (from 50 years to 93 years). Four women and 7 men are included. BUN, crea, Ht, eGFR were evaluated for their renal dysfunction and dehydration index with their ileostomy output.

Pre ileostomy, eGFR is 86.8 ml/ min in average (68-111). eGFR goes 47.5ml/ min in average (22-84). Output of ileostomy is 1196ml in average (250-3633).

These result suggest that higher the ileostomy output, worsen the renal function.

As renal dysfunction often goes worse than preileostomy for its high output after ileostomy, early stoma closure is recommended.

---

---

## SY10-2 Early renal dysfunction after temporary ileostomy

Streaming  
Room 2

**Authors:** Mizunori Yaegashi, Koki Otuska, Toshimoto Kimura, Teppei Matsuo, Kiyoharu Takashimizu, Yuichiro Hirata, Yuya Nakamura, Akira Sasaki

**Organisation:** Department of Surgery, Iwate Medical University School of Medicine, Iwate, Japan

**Abstract:**

In colorectal surgery, a covering stoma is often used to prevent complications such as anastomotic leakage. We frequently make use of temporary ileostomy as it offers a simpler surgical procedure and leads to fewer complications for stoma closure. Ileostomy is especially beneficial for patients who have undergone preoperative chemotherapy or chemoradiotherapy, intersphincteric resection, and those with high risk factors for anastomosis leakage. One of the most common complications of ileostomy is a high-volume output of intestinal fluids, which can cause acute and chronic salt and water depletion. The resulting dehydration may lead to renal impairment and hospital readmission.

We evaluated the renal function of patients after a ileostomy for rectal cancer and investigated the onset of renal dysfunction. The study included 58 patients who underwent ileostomy construction and closure. The estimated glomerular filtration rate (eGFR) was measured at specific time points after the index surgery. In a case-matched study, we compared the renal functioning of patients after temporary ileostomy with that of patients who had undergone low anterior resection without ileostomy.

Our results indicated that the eGFR was significantly lower at 1 month after ileostomy than at the time of ileostomy construction and did not improve after ileostomy closure. The number of ileostomy patients with reduced eGFR significantly increased 1 month after ileostomy construction.

Based on our findings we recommend that patient management after ileostomy includes: a) intravenous drip administration to address dehydration due to the high stoma output; b) administration of antidiarrheal drugs as necessary to control stoma output; c) attenuated follow-up periods and prompt stoma closure.

---

---

## SY10-3 Renal dysfunction after ileostomy –Present status and how I manage

Streaming  
Room 2

**Author:** Tzu-Chi Hsu<sup>1,2</sup>

**Organisation:** <sup>1</sup>Professor of Surgery, Mackay Medical College, Taipei, Taiwan; <sup>2</sup>Attending Surgeon, Mackay Memorial Hospital, Taipei, Taiwan

**Abstract:**

Ileostomy creation is a commonly performed operation in colorectal surgery. High stoma output and dehydration is common following ileostomy formation. Literature reports suggested that postoperative renal impairment occurred more frequently in ileostomates than patients without ileostomy. Despite stoma closure, ileostomates remained at increased risk of progression to new or worse chronic kidney disease compared to patients without an ileostomy.

I myself favor protecting colostomy than protecting ileostomy following anterior resection for malignant neoplasm of rectum. However, ileostomy was still frequently constructed following restorative proctocolectomy with ileal pouch anal anastomosis (IPAA) for polyposis coli and ulcerative colitis. With a personnel experience of over 50 cases of IPAA constructed, one severe renal failure and electrolytes abnormality encountered, with incidence of less than 2%. The patient was a 52 years old male. He had an over 20 year history of ulcerative colitis and was treated with anti-TNF monoclonal antibody. On the top of that, bilateral angiomyolipomas of both kidneys were also detected. An IPAA with ileostomy was performed on 2020/1/7. Because of persisted intestinal obstruction caused by adhesions and a twist of ileostoma, lysis of peritoneal adhesions and reconstruction (redo) of ileostomy was necessary on 2020/2/1. BUN was found to be elevated to critical level of 108 mg/dL, Creatinine was elevated to 2.1 mg/dL, serum sodium was found at severely low level of 115 mEq/L on 109/6/16. His BMI was calculated at 15.6 kg/m<sup>2</sup>. After appropriate fluid and electrolytes replacement with nutritional support, the patient recovered well.

Since many patients develop complications such as dehydration postoperatively, appropriate strategies to decrease dehydration and renal failure following ileostomy is needed especially in the high risk patients including elderly, receiving rennin-angiotension system antihypertensives, or following anastomotic leakage.

---

---

## SY10-4 Renal failure after ostomy creation: influence of stoma type, management and closure

Streaming  
Room 2

**Author:** Hermann Peter Kessler

**Organisation:** Department of Colorectal Surgery, Digestive Disease and Surgery Institute, Cleveland Clinic, Cleveland, Ohio, USA

**Abstract:**

**Background:**

Rates and clinical outcomes of leakages in colorectal surgery may be positively influenced by creation of a diverting stoma. Loop ileostomies and loop colostomies may be used for fecal diversion. Both procedures offer potential advantages and are depending on type of surgery and indication. At any time, specialized nurses should be involved into the process before and after surgery. Quality of life issues favor the creation of diverting loop ileostomy due to ease of construction and takedown and less risk of feculent spread; however, morbidity results of ileostomy are mainly impaired by more frequent renal dysfunction.

**Methods:**

The institutional experience was compared with studies analyzing the protective value of ileostomy creation, timeliness of renal failure occurrence, protocols of management, risk of chronic kidney injury and systematic treatment in cases of readmission.

**Results:**

Readmission rates for dehydration and renal dysfunction after ileostomy creation have been found as high as 20 %. Measurements of eGFR show significantly lower values one month after ileostomy creation and were persistent even after stoma closure. Preoperative chemo- and chemoradiotherapy may further reduce kidney function. Bowel function starts earlier after ileostomy creation and also after closure, the hospital stay is shorter. High output in ileostomies, however, poses a risk factor for prolonged hospitalization. An efficient protocol focusing on rehydration is helpful to accelerate successful treatment; this may be supported by a specialized rehydration clinics where the patients are admitted only to observation for up to 48 hours. Age older than 50 years has been identified as an independent predictor of readmission with renal failure, ileal pouch creation was predictive only for simple dehydration without renal failure.

**Conclusion:**

Regarding the end point of dehydration, renal failure and readmission after stoma creation, the development of further and refinement of existing care paths will be helpful. Also, home hydration for risk patients and more intensive follow-up of fluid and electrolyte losses including a diary for protocol may be important tools to reduce renal complications.

---

---

## SY10-5 Renal dysfunction after ileostomy - Present status and how we manage

Streaming  
Room 2

**Author:** Alessandro Fichera

**Organisation:** Surgery, Baylor University Medical Center, Dallas, TX, USA

**Abstract:**

A diverting loop ileostomy is itself associated with significant potential morbidity. Readmissions are common with dehydration and electrolyte imbalance resulting from the high stoma output, the cause in 40%–43% of patients. There have been few studies examining changes in renal function while an ileostomy is *in situ*. Only one, a small study with limited controls, attempted to characterize the impact from ileostomy formation. This study highlighted a 10-fold increase in readmissions with acute kidney injury for patients with an ileostomy *in situ*, but also an increased risk of developing severe chronic kidney disease [CKD stage 4 (CKD4)] at 12 months. This was a diverse patient group, with a heterogeneous control cohort, making it difficult to separate the impact of ileostomy on renal function vs adjuvant, neoadjuvant or palliative treatments. Even transient impairments in renal function may impact long-term outcomes. A temporary decline in renal function (particularly perioperatively) has been shown to be an independent prognostic predictor for the later development of CKD. Lower estimated glomerular filtration rate (eGFR) is associated with an increased risk of hospitalization, cardiovascular events and death, with even small increases in serum creatinine having adverse prognostic significance.

Several protocols developed for the detection and management of HOS effectively addresses possible long-term complications arising from poor nutritional status and chronic electrolyte alteration and will be discussed during the presentation.

---

---

**SY10-6 Renal dysfunction after ileostomy –Present status and how we manage****Streaming  
Room 2****Author:** Ashok Kumar**Organisation:** Surgical Gastroenterology, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, Uttar Pradesh, India**Abstract:**

Ileostomy is often created to prevent complications after colorectal surgery; however, it is not free from its own complications. The complications may be encountered in the early post operative period and also later in the follow up. The common complications of ileostomy arise out of technical issue and high output ileostomy. High ileostomy output may lead to dehydration, electrolyte disturbances and the kidney injury. The GFR also has been reported to decrease without high output at one month after ileostomy construction and did not improve after ileostomy closure. This may get worsened with high output ileostomy and may lead acute kidney injury. Some of them even require dialysis.

A proper postoperative discharge advice, regular follow up and monitoring of electrolyte and renal function in border line cases is helpful to prevent the renal damage. In case of complications a multi modal regimen consisting of correction of fluid and electrolyte; restriction of oral hypotonic fluids with dietary modifications and use of anti-motility drugs is recommended to achieve a favorable clinical outcome. In severe dysfunction/acute kidney injury , nephrologists opinion and intervention is needed.

---

---

**SY11-1 The past, present and future of natural orifice specimen extraction surgery for colorectal cancer**

Streaming  
Room 2

**Author:** Xishan Wang

**Organisation:** Department of Colorectal Surgery, National Cancer Center/National Clinical Research Center for Cancer/Cancer Hospital, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing, China

**Abstract:**

In the past decades, minimally invasive surgery has rapidly developed in colorectal surgery. Natural orifice specimen extraction surgery (NOSES), by avoiding abdominal incision, has been considered as a well-established surgical approach with favorable short-term outcomes. However, compared to open surgery and conventional laparoscopic procedures, NOSES exists a number of technical variations in term of specimen extraction and intraperitoneal bowl reconstruction, which may be complicated for the younger and inexperienced surgeons. Moreover, in the past, the definition of NOSES is ambiguous, and most studies of NOSES were retrospective and based on single center. In June 2013, we began to implement the NOSES technology, which has been currently evolved into over ten different approaches for colorectal cancer. Nowadays, in order to promote NOSES worldwide, we have formed the theoretical system, such that expert consensus and NOSES-related books (both Chinese and English edition) have been published. Meanwhile, Chinses and International NOSES Alliance have been established, including more than 700 members from China and 60 members from 16 countries, respectively. Moreover, we have established a big data platform, which includes over 5000 NOSES cases from about 200 Chinese hospitals, even primary hospitals enrolled. The national database analysis indicates that the postoperative complications and oncological outcomes for NOSES are considered to be acceptable, suggesting that the novel approach of NOSES is feasible and safe in the treatment of colorectal cancer. In the future, with the further development of surgical instruments, NOSES may be easier to be performed, which can give surgeons a sense of accomplishment and bring more comfort to patients. Therefore, we believe that NOSES is not just a surgical show, and NOSES is the future direction of minimally invasive surgery.

---

---

**SY11-2 NOSES with new technology - Robotic ISR combined with taISR for very low rectal cancer -**

Streaming  
Room 2

**Authors:** Junji Okuda<sup>1</sup>, Keitaro Tanaka<sup>2</sup>, Masashi Yamamoto<sup>2</sup>, Wataru Osumi<sup>2</sup>, Hiroki Hamamoto<sup>2</sup>, Keisuke Izuhara<sup>2</sup>, Kazuhisa Uchiyama<sup>2</sup>

**Organisation:** <sup>1</sup>Cancer Center, Osaka Medical College Hospital, Osaka, Japan; <sup>2</sup>General and Gastroenterological Surgery, Osaka Medical College

**Abstract:**

For ver low rectal cancer, we have applied laparoscopic ISR for over 220 cases. As trans-anal approach wa often very difficult especially at the anterior dissection, we have introduced taISR. However, even using taISR, the anterior dissection of anal canal is still difficult with some reports of urethral injury. Since September 2018, we have introduced robotic ISR(rsISR) combined with taISR for 50 cases. Recently we experienced one urethral injury case during taISR dissection. For this particular case, we did salvage dissection by rsISR and repaired by direct suturing by ta followed by pullthrough/Reborn method to have avoided postoperative complications. As of now, for the difficulty of anterior dissection in anal canal by taISR, we should apply rsISR especially in case of rsISR combined taISR approach. Also pull-through/Reborn method could be optimal procedure (NOSES) in terms of avoiding any stoma in ISR. Furthermore, rs/ta approach for lateral node dissection must be a good option especially complete 263D dissection with preservation of inferior vesicle artery. We would like to demonstrate our strategy and procedure.

---

---

**SY11-3 Prospective multicenter study of reduced port surgery combined with transvaginal specimen extraction for colorectal cancer resection**

Streaming  
Room 2

**Authors:** Hidekazu Takahashi<sup>1</sup>, Atsushi Hamabe<sup>1,4</sup>, Tsuyoshi Hata<sup>1</sup>, Yuji Nishizawa<sup>2</sup>, Atsushi Nishimura<sup>3</sup>, Masaaki Itoh<sup>2</sup>, Ichiro Takemasa<sup>4</sup>

**Organisation:** <sup>1</sup>Department of Gastroenterological Surgery, Osaka University, Osaka, Japan; <sup>2</sup>Department of Colorectal and Pelvic Surgery, National Cancer Center Hospital East; <sup>3</sup>Department of Surgery, Institute of Gastroenterology, Nagaoka Chuo General Hospital; <sup>4</sup>Department of Surgery, Surgical Oncology and Science, Sapporo Medical University

**Abstract:**

**Purpose**

The relevance of transvaginal specimen extraction (TVSE) combined with reduced port surgery (RPS) remains unknown. This study investigated the feasibility of TVSE with RPS about short-term outcomes and cosmesis.

**Methods**

This prospective multicenter study enrolled 10 patients at three institutions. For semi-quantification of each parameter, we administered questionnaires to assess pain (visual analogue scale [VAS]), subjective/objective wound healing aesthetics (photo series questionnaires [PSQ]), and quality of life (QOL).

**Results**

No operative complications occurred, except one urinary tract infection, which was promptly cured with antibiotics. On day 0, pain was rated  $2.3 \pm 0.67$  at rest and  $4.9 \pm 0.82$  during sneezing; these ratings gradually declined over time. The PSQ showed that patient ratings of wound aesthetics after TVSE were not inferior to ratings from patients after conventional laparoscopy or single incision laparoscopic surgery, and they were significantly higher than patient ratings of wounds after laparotomy ( $P < 0.05$ ). The QOL scores showed that, compared to before surgery, after surgery, patients reported significant deterioration of physical functioning ( $96.67 \pm 1.49$  vs.  $87.33 \pm 2.71$ ), emotional functioning ( $93.33 \pm 2.72$  vs.  $86.67 \pm 2.22$ ), fatigue ( $7.78 \pm 3.72$  vs.  $26.67 \pm 8.31$ ), and pain ( $6.67 \pm 3.69$  vs.  $18.33 \pm 4.61$ ).

**Conclusion**

TVSE with RPS for colorectal cancer was feasible. Postoperative pain was quite little.

---

---

**SY11-4 Registration of rectal cancer-related clinical trials on chinese clinical trial registry**

Streaming  
Room 2

**Authors:** Shi-Can Zhou, Junhong Hu

**Organisation:** Department of General surgery, Huaihe Hospital of Henan University, Kaifeng, Henan, China

**Abstract:**

**Background:** This study investigated and analyzed rectal cancer-related clinical trials registered on Chinese Clinical Trial Registry (Chi-CTR) by the end of 2018. We aimed to discuss the characteristics and developmental trends.

**Methods:** The Chi-CTR database was searched and all clinical trials related to rectal cancer extracted. The time limit for the search was from the establishment of the data library to December 31, 2018. The characteristics of registered clinical trials were then analyzed.

**Results:** A total of 70 clinical trials were retrieved. Beijing, Shandong, and Guangzhou accounted for 47.1% of the total number of registered clinical trials. Sichuan and Sun Yat-sen Universities having the highest number of registrations. The registration status of the 55 trials was prospective registration. The top sources of funding were self-financing (41.4%), hospital funding (22.9%) and local finance (15.7%). Out of the 43 randomized controlled trials, 39 were either blank or missing in the blinded section. The sample size of clinical trials was high in 100 to 199 cases. Only eight of the 70 trials were multicenter clinical trials.

**Conclusions:** Relevant departments should increase the registration of clinical trials, increase the awareness of registration, and promote the development of high-quality clinical trials. At the same time, researchers should raise the awareness of clinical trial registration, and actively carry out multi-center clinical trials.

---

---

## SY11-5 Totally laparoscopic sigmoidectomy with natural orifice specimen extraction

Streaming  
Room 2

**Authors:** Atsushi Nishimura, Mikako Kawahara

**Organisation:** Surgery, Nagaoka Chuo General Hospital, Niigata, Japan

**Abstract:**

[Aims]We performed totally laparoscopic colectomy with natural orifice specimen extraction (NOSE), including transanal and transvaginal extraction for colon cancer. This retrospective study compared the short- and long-term outcomes in this technique and conventional laparoscopic colectomy (LAC).[Methods]NOSE was indicated for patients with clinical stage T3 or lower primary tumors that were located in the sigmoid or rectosigmoid colon. It was not indicated for cases in which the tumor covered over half of the colon circumference or for obese patients. Transvaginal specimen extraction was indicated for women who previously underwent vaginal delivery. Patients were assigned to undergo colectomy with NOSE or LAC according to operator's judgment. Data of patients who were completed colectomy with NOSE or LAC from April 2009 to December 2018 were analyzed. [Results]Ninety-eight patients undergo colectomy with NOSE and 236 patients with LAC were enrolled. Operation time was longer in NOSE group (NOSE vs. LAC: mean 230 vs. 195min respectively,  $P < 0.001$ ). The number of intravenous analgesic use was smaller (2.6 vs. 3.3,  $P = 0.003$ ) and length of postoperative hospital stay was shorter (7.7 vs. 7.8 days,  $P < 0.001$ ) in NOSE group. Postoperative complication rates (Clavien-Dindo Grade 3 $\leq$ ) were 2.0 vs. 1.7% ( $P = 0.828$ ). There were no differences in 5-year all over survival (pStage 1, 2, 3: 94 vs. 93%, 84 vs. 82%, 100 vs. 94%) and 5-year disease free survival (94 vs. 88%, 75 vs. 79%, 93 vs. 80%). [Conclusion]Totally laparoscopic colectomy using NOSE appears to be a promising option for selected cases.

---

---

**SY11-6 Laparoscopic natural orifice specimen extraction surgery versus conventional laparoscopic surgery in colorectal cancer: better choice for CRC patients**

Streaming  
Room 2

**Author:** Chuan-Gang Fu, Lin Chen

**Organisation:** Shanghai East Hospital Tongji University, Shanghai, China

**Abstract:**

**Introduction:** This study was to synthesize evidence from randomized controlled trials (RCTs) of laparoscopic resection with natural orifice specimen extraction (NOSE) versus conventional laparoscopy (CL) in colorectal disease.

**Methods:** Eligible RCTs were identified by searching electronic databases (PubMed, Embase, Cochrane library, Web of Science, CNKI, CQVIP, Wanfang and Sinomed). Between-group mean differences (MDs) with their 95% confidence intervals (CIs) were used for continuous variables. Event rate ratios (RRs) were also calculated with their 95% CIs.

**Results:** The electronic database search yielded 1,569 citations as of June 2020, and finally 21 studies involving 2,112 subjects met the eligibility criteria and were included in the meta-analyses. Compared to CL group, NOSES group had longer operation time (MD: 8.14 min, 95% CI: 3.02 to 13.25,  $p < 0.01$ ); less blood loss (MD: -10.64 ml, 95% CI: -14.92 to -6.36,  $p < 0.01$ ); less hospital stay after surgery (MD: -2.21 days, 95% CI: -3.36 to -1.06,  $p < 0.01$ ); shorter time of gas passage after surgery (MD: -0.58 days, 95% CI: -0.82 to -0.34,  $p < 0.01$ ); Pain score was significantly decreased in NOSES group (MD: -1.06, 95% CI: -3.74 to -0.37,  $p < 0.01$ ). Higher cosmetic score (MD: 1.93, 95% CI: 0.77 to 3.10,  $p < 0.01$ ). Rate ratios (RR) of total complications, infection and incision infection all favor NOSE group, with RRs (95% CIs) of 0.62 (0.48 ~0.82), 0.34(0.21~0.54) and 0.24(0.12~0.51), respectively.

**Conclusion:** This study was the first comprehensive meta-analysis of RCTs to synthesize evidence of laparoscopic resection with NOSES versus conventional laparoscopy. NOSES is associated with shorter hospital stay after surgery, less pain score, a shorter time to resumption with better cosmetic results, and less postoperative complications.

---

---

**H-01**    **The advantage of robotic surgery for low rectal cancer when performing a side-to-end anastomosis in patient with anal stenosis due to hemorrhoidectomy: a case report**

Streaming  
Room3

**Authors:** Yosuke Tajima<sup>1</sup>, Tsunekazu Hanai<sup>1</sup>, Hidetoshi Katsuno<sup>1</sup>, Koji Masumori<sup>1</sup>, Yoshikazu Koide<sup>1</sup>, Keigo Ashida<sup>1</sup>, Hiroshi Matsuoka<sup>1</sup>, Tomoyoshi Endo<sup>1</sup>, Tadahiro Kamiya<sup>1</sup>, Yongchol Chong<sup>1</sup>, Kotaro Maeda<sup>2</sup>, Ichiro Uyama<sup>1</sup>

**Organisation:** <sup>1</sup>Department of Gastrointestinal Surgery, Fujita Health University, Aichi, Japan; <sup>2</sup>International Center, Fujita Health University Hospital, Aichi, Japan

**Abstract:**

We report here a rare case of robotic low anterior resection with side-to-end anastomosis for low rectal cancer with anal stenosis. A 78-year-old woman presented with bloody stool. Colonoscopy and computed tomography revealed advanced low-rectal cancer without lymph node or distant metastasis. We planned to perform low anterior resection, however, reconstruction with double-stapling technique or transanal hand-sewn anastomosis seemed to be difficult because digital examination revealed anal stenosis with fibrosis caused by Milligan-Morgan hemorrhoidectomy undergone 20 years earlier. The patient never had any defecation disorder and she refused ostomy. Therefore, we planned to insert an anvil into the rectal stump and fixed the anvil with robotic purse-string suture. The shaft of the circular stapler was inserted from the sigmoidal side and connected with the anvil, and side-to-end anastomosis was performed laparoscopically. The distance from anus to anastomosis was 5 cm. The patient was discharged from the hospital without anastomotic leakage. Robotic assistance is much useful for low anterior resection with side-to-end anastomosis.

---

## H-02 Our procedure of total pelvic exenteration combined with sacral resection

Streaming  
Room3

**Authors:** Koji Komori, Takashi Kinoshita, Taihei Oshiro, Akira Ouchi, Aina Kunitomo, Satoshi Oki, Yasuhito Suenaga, Shingo Maeda, Seiji Ito, Tetsuya Abe, Yasuhiro Shimizu

**Organisation:** Department of Gastroenterological Surgery, Aichi Cancer Center Hospital, Aichi, Japan

### **Abstract:**

#### [Objective]

To demonstrate our procedure for total pelvic exenteration combined with sacral resection (TPES)

#### [Subject]

20 cases underwent TPES between January, 2004, and April, 2020.

#### [Operative procedures]

(1) It is difficult to recognize ureters intraoperatively due to the severe adhesion. Thus, double J-stents were catheterized into ureters preoperatively. Palpation makes it possible to recognize ureter.

(2) After lateral lymph node dissection, iliac veins became brittle and triggered unexpected hemorrhage.

(3) One should not hesitate to resect internal and external iliac arteries and external iliac vein to ensure adequate surgical margin. When external iliac artery resection is needed, axillofemoral bypass is undertaken.

(4) Orthopedists marked incisions using stunning Kirschner wires at least 1 cm apart from recurrent lesion to ensure adequate surgical margin. The tip of Kirschner wires were fixed beyond the gluteal skin.

(5) Incise sacrotuberous and sacrospinous ligaments and resect the sacrum with Ruel or Chisel.

#### [Results]

Complications more than Grade 3 (C–D)

There was one (14.3%) case in the primary lesion group and 10 (76.9%) cases in the recurrent lesion group. The number in the recurrent group was significantly higher than that in the primary group ( $p = 0.012$ ). There were eight cases (72.7%) involving the upper resection of the sacrum (resection of upper third sacrum) and three cases (33.3%) with lower resection of the sacrum (resection below and between the third and fourth sacrum). The number in the upper resection group was higher than that in the lower group ( $p = 0.095$ ).

#### [Conclusion]

It is important to learn surgical techniques for TPES resection, especially in recurrent lesions and in the upper resection of the sacrum, to ensure adequate surgical margin.

---

**H-03 Laparoscopic right hemicolectomy with D3 lymph node dissection using a retroperitoneal approach**

Streaming  
Room3

**Authors:** Hirotoshi Kobayashi, Masahiro Yamane, Ayaka Ito, Yutaka Hattori, Fumi Shigehara, Sachiyo Kawamura, Takumi Hikawa, Jumpei Takashima, Kenji Yamazaki, Fumihiko Miura, Keizo Taniguchi

**Organisation:** Department of Surgery, Teikyo University, Mizonokuchi Hospital, Kanagawa, Japan

**Abstract:**

**Background:** There are a variety of surgical techniques for right hemicolectomy because of its anatomical characteristics. Especially, there are three major approaches: cranial approach, medial approach, and retroperitoneal approach. We have adopted a retroperitoneal approach, because we can easily keep deeper layer and radial margin in patients with advanced cancer.

**Technique:** After the mobilization of right colon and small intestine along with appropriate layer, the first step of lymph node dissection is dividing of ileocolic vessels. Thereafter, lymph node dissection along with surgical trunk is performed. One of the knacks is a marking of the extent of lymph node dissection by an electric cautery when the superior mesenteric vein is recognized. Only right branches of middle colic vessels are divided. The last step is a dividing of accessory right colic vein from gastrocolic trunk.

**Conclusion:** Radial margin as well as D3 lymph node dissection is important for prevention of local recurrence.

---

---

**H-04** Change in neutrophil / lymphocyte ratio during chemotherapy predicts prognosis in patients with unresectable advanced/metastatic colorectal cancer

Streaming  
Room3

**Authors:** Tetsutaro Nemoto<sup>2</sup>, Shungo Endo<sup>1</sup>, Noriyuki Isohata<sup>1</sup>, Hajime Matsuida<sup>1</sup>, Daisuke Takayanagi<sup>1</sup>, Daiki Nemoto<sup>1</sup>, Masato Aizawa<sup>1</sup>, Kenichi Utano<sup>1</sup>, Kazutomo Togashi<sup>1</sup>, Ikuro Oshibe<sup>2</sup>, Nobutoshi Soeta<sup>2</sup>, Takuro Saito<sup>2</sup>

**Organisation:** <sup>1</sup>Department of Coloproctology, Aizu Medical Center, Fukushima Medical University, Fukushima, Japan; <sup>2</sup>Department of Surgery, Aizu Medical Center, Fukushima Medical University, Fukushima, Japan

**Abstract:**

**Purpose:** Neutrophil/lymphocyte ratio (NLR) has been reported as an independent predictive factor for the prognosis of unresectable advanced/metastatic colorectal cancers (CRC). However, there are few reports about the change in NLR during chemotherapy. This study analyzed whether a change in NLR during chemotherapy in CRC patients is a prognostic indicator.

**Methods:** Included in this study were 71 patients who were received chemotherapy for unresectable/metastatic CRC between April 2012 and April 2019. Among those excluded were patients who were given chemotherapy for <3 months, had undergone the curative resection after chemotherapy, injected with granulocyte-colony stimulating factor; G-CSF within 3 months. NLR was calculated before the first chemotherapy (baseline) and 3 months later. We analyzed the relationship between NLR and overall survival (OS), progression free survival (PFS), clinicopathological factors (age, sex, histology, sidedness, CRP, CEA, CA 19-9, etc.).

**Results:** The median follow-up period was 21.0 (5.1-73.4) months. The median NLR was 2.65 (1.2-9.8) at baseline, and 1.64 (0.51-14.1) 3 months later. Moreover, the median change rate from baseline to 3 months later was -38.1 (-85.5 to +44.0) %. There were no significant differences in clinicopathological factors between patients with increased NLR (n = 10) and decreased NLR (n = 61). OS was significantly better for patients with decreased NLR than for those with increased NLR ( $p < 0.01$ ), with median survival times of 26.6 months and 10.1 months, respectively, while PFS was 13.6 months and 5.2 months ( $p < 0.01$ ), respectively.

**Conclusions:** There was no association between change in NLR and clinicopathological factors. The changes in NLR before chemotherapy to 3 months later were a predictor of chemotherapy effect.

---

---

**H-05 Combined laparoscopic and transperineal endoscopic total pelvic exenteration for the vaginal stump recurrence of cervical cancer after chemoradiotherapy**

Streaming  
Room3

**Authors:** Ryo Ohno, Suguru Hasegawa, Ryuji Kajitani, Takaomi Hayashi, Yoshiko Matsumoto, Hideki Nagano, Takahide Sasaki, Akira Komono, Naoya Aisu, Gumpei Yoshimatsu, Yoichiro Yoshida

**Organisation:** Department of Surgery, Fukuoka University Hospital, Fukuoka, Japan

**Abstract:**

Background: Transanal or transperineal rectal cancer surgery such as TaTME or TpAPR is gaining acceptance because of better accessibility for lower pelvis. Recently, this approach has also been used for more advanced or extended pelvic surgery, including total pelvic exenteration (TPE). We will present our surgical procedure of combined laparoscopic and transperineal endoscopic TPE for pelvic recurrence of uterus cancer.

Patient and operative procedure: A 42-year-old woman was diagnosed as vaginal stump recurrence of cervical cancer involving the rectum and bladder, following hysterectomy and pelvic lymph node dissection. Following chemoradiotherapy, we performed TpTPE combined with laparoscopic approach. GelPOINT advanced access platform was fixed through the perineal skin incision around the tightly closed anus, urethra and vagina. Transperineal pelvic dissection was performed under good surgical view without any influence of previous gynecologic surgery, while maintaining sufficient pneumopelvic pressure (12mmHg). Ureterostomy and sigmoid colostomy was fashioned and reconstruction of the pelvic defect was performed with a right gracilis muscle flap. The total operative time and estimated blood loss was 887 min and 497 g, respectively. Histopathological analysis revealed recurrent cervical cancer invading the rectum, bladder, and bilateral ureters with negative surgical margin. The postoperative course was uneventful except for paralytic ileus. The patient was discharged on POD 18.

Conclusion: TpTPE is technically feasible and effective approach for local recurrence of pelvic tumor.

---

**Authors:** Daiki Nemoto<sup>1</sup>, Yoshikazu Hayashi<sup>2</sup>, Takahito Takezawa<sup>2</sup>, Masato Aizawa<sup>1</sup>, Hironori Yamamoto<sup>2</sup>, Alan Lefor<sup>3</sup>, Kazutomo Togashi<sup>1</sup>

**Organisation:** <sup>1</sup>Department of Coloproctology, Aizu Medical Center, Fukushima Medical University, Fukushima, Japan; <sup>2</sup>Department of Medicine, Division of Gastroenterology, Jichi Medical University, Tochigi, Japan; <sup>3</sup>Department of surgery, Jichi Medical University, Tochigi, Japan

**Abstract:**

**Background:** ESD of colorectal lesions at an anastomotic site are technically difficult due to the complex anatomy and staples. The feasibility and safety of ESD for such lesions remain unknown. We report successful ESD using the pocket creation method for lesions at an anastomotic site.

**Patient 1** is a 68-year-old male who underwent bypass surgery for an elongated sigmoid colon 40 years previously. We performed screening colonoscopy which identified a sessile lesion at the suture line. The lesion was 20mm and suspicious for high grade dysplasia. The anastomosis appeared to be hand-sewn using the Albert-Lembert method because recent computed tomography scan did not reveal staples in the abdomen. PCM made it possible to precisely dissect the layers, in the space between the sutures, without perforation. Indeed, we had to cut the muscle to go into the space. The pathological diagnosis was a superficial carcinoma, and the resected specimen contained smooth muscle.

**Patient 2** is an 83-year-old male who underwent laparoscopic sigmoid colectomy for cancer. Four years later, he underwent surveillance colonoscopy which identified a protruding lesion at the anastomotic line about 3cm in size and spread over the anastomotic site with a circular staple line, away from the liner stapler line. At the anastomotic site, there are two closely placed circular staple lines. PCM enabled cutting between the rows allowing removal of the inner staples with a hook knife without removing the outer staple line. The pathological diagnosis was a tubulovillous adenoma.

**Conclusion:** Understanding the local anatomy of various anastomosis is the key for successful ESD. The pocket-creation method was a useful strategy even in anastomotic lesions.

---

---

## H-07 Prognosis after radical surgery for suprasphincteric fistula-in-ano

Streaming  
Room3

**Authors:** Saburo Hisano, Yoriyuki Tsuji, Shota Takano, Kazutaka Yamada, Masahiro Takano

**Organisation:** Department of surgery, coloproctology center Takano hospital, Kumamoto, Japan

**Abstract:**

Parks' supralelevator abscess is classified into two types; the high intersphincteric abscess (HISA) which extends between the internal anal sphincter and conjoined longitudinal muscle (cLM) reaching above the levator ani, and the suprasphincteric abscess (SSA) which is rare and extends in the space between cLM and the external anal sphincter (EAS), space called posterior deep space (PDS), and ruptures into the pelvirectal space through the levator ani. cLM blocks the extension of the abscess so incision and drainage should be made via the transanal route for HISA and through EAS for SSA to avoid creating an iatrogenic complex anal fistula. Methods/Interventions: If suprasphincteric fistula (SSF) was suspected by EAU, MRI was added. At radical surgery PDS was widely opened transversely to protect EAS and the primary opening was closed. Results: Patients (n=2086) who underwent anal fistula surgery at our institution between April 2011 and June 2015 were retrospectively analyzed. Two MRI confirmed cases of SSF were identified. The first case was a 49 year old male with a good clinical course after the radical surgery. The preoperative and postoperative maximum resting pressure (MRP) was 51 and 50 cmH<sub>2</sub>O, respectively, and the maximum squeeze pressure (MSP) was 131 and 416 cmH<sub>2</sub>O, respectively. The second case was a 40 year old male. A fistulography revealed that there was a perforation into the rectum. On the 100<sup>th</sup> day after the radical surgery complete healing was confirmed. The Wexners' incontinence score on the 32<sup>nd</sup> postoperative day was 0. Moreover, a questionnaire administered 87 months postoperatively revealed there was good anal function and no recurrence. Conclusion/Discussion: It is important to open PDS widely to get enough drainage at radical surgery of SSF.

---

---

**H-08 A novel surgical technique for anal fistula surgery designed to preserve the anal sphincter function and anoderm**

Streaming  
Room3

**Authors:** Yasuhiro Shimojima, Makoto Matsushima, Sayuri Matsushima, Yotaro Watanabe, Ayumi Beniya, Yosioki Hikosaka, Remi Katori, Naomi Matsumura, Yoichi Kono, Kofu So, Kosuke Okamoto, Masahiko Fukano, Kazunori Suzuki, Joji Kuromizu

**Organisation:** Department of surgery, Matsushima hospital Colo-Proctology centre, Kanagawa, Japan

**Abstract:**

**Objective**

We reviewed surgical outcomes after we introduced a novel surgical technique for anal fistula surgery designed to preserve anal sphincter function and the anoderm.

**Methods**

We studied 200 male patients who underwent a functional preservative operative technique (FPOT group) for anal fistulas and 200 patients who underwent resection of trans-sphincteric anal fistulas (fistulectomy group) between February 2014 and September 2015. Complications such as those affecting anal sphincter function, recurrence, and incontinence were compared.

**Results**

Fistulas recurred in 3 (1.5%) patients in the FPOT group and 2 (1%) patients in the fistulectomy group. This difference was not significant. Gas leakage and other forms of incontinence were identified in 1 (0.5%) and 14 (7%) patients in the FPOT and fistulectomy groups, respectively, and anal function assessment demonstrated that the functional preservative operative technique was significantly better at preserving function than fistulectomy in all patients.

**Conclusion**

There were no significant differences between the functional preservative operative technique and fistulectomy in terms of recurrence or complication rates. In addition, as there was no decrease in postoperative anal function, we concluded that the functional preservative operative technique is an effective functional preservative surgical technique for treating trans-sphincteric anal fistulas.

---

---

**H-09 Clinical outcomes of perineal stapled prolapse resection (PSPR) for elderly patients with rectal prolapse**

Streaming  
Room3

**Authors:** Hidefumi Nishimori, Takeshi Sawada, Hideharu Miura, Tomomi Hirama, Keisuke Ohno, Chikashi Kihara, Takahiro Yasoshima, Kuniaki Okada, Tomomi Yajima, Fumitake Hata

**Organisation:** Department of Surgery, Sapporo Dohto Hospital Medical Corporation, Hokkaido, Japan

**Abstract:**

**INTRODUCTION:** The number of cases of rectal prolapse has been increasing with the aging of the population, but the standard of care has not yet been established. We have been performing PSPR for complete rectal prolapse and reviewed the clinical outcomes of this procedure.

**SUBJECTS:** We experienced 218 complete rectal prolapses with generally more than 5 cm prolapse between August 2009 and December 2019. 142 of the 218 cases were over 80 years old (8 males and 134 females; mean 86.3 years). Fifty-five (38.7%) had cognitive impairment, and 39 (27.5%) had a prolapse of other organs.

**RESULTS:** PSPR was performed in 142 patients, 46 recurrences (32.3%, mean 364 days to recurrence), and we re-administered PSPR in 32 patients. Sixteen of the 32 patients were cured, but 16 patients had recurrences. In other words, 78.9% (112/142) of patients were cured after two sessions of PSPR (final recurrence rate was 36.8% (62/174), and the mean operative time was 18.1 minutes). There were ten postoperative complications (5.7%): anastomotic stenosis in 5 cases, postoperative bleeding in 2 cases, anastomotic necrosis, intra-abdominal abscess, and retroperitoneal emphysema in 1 case each. There was no anastomotic leakage. Postoperative hospital deaths were observed in 3 patients (2.1%), and perioperative deaths were observed in 2 patients.

**CONCLUSION:** In general, patients with rectal prolapse are elderly and frail, so simple and minimally invasive treatment is feasible. For this reason, there is a trend toward less invasive perineal surgery than transabdominal surgery. PSPR is simple, quick, and safe, even with not a low recurrence rate, and is a good option for the treatment of elderly patients with rectal prolapse.

---

---

**H-10 Double loop puborectoplasty for the treatment of neurogenic fecal incontinence**

**Streaming  
Room3**

**Author:** Ismail A. Shafik

**Organisation:** Colorectal Surgery, Cairo University, Cairo, Egypt

**Abstract:**

Double loop puborectoplasty for the treatment of neurogenic fecal incontinence.

---

---

## H-11 Hands contamination of health care workers at a hospital in Albania

Streaming  
Room3

**Author:** Zhinzela Qyli

**Organisation:** Nursing, Fan S Noli, Korce, Albania

**Abstract:**

**Background:** Health care workers (HCWs) serve as a potential sources of nosocomial infections. During their work at the hospital they can transfer microorganismsin through a direct or indirect way from patient to patient. Hand hygiene substantially reduces this transmission.**Aim:** The aim of this study was to identify the rate of contamination of HCWs hands at the regional hospital of Korca Albania.**Methods:** Swabs were collected from the hands of 67 HCWs from different departments of the hospital. Hands were rubbed with saline moistened swab, than the swab was rubbed on blood agar plate and sabouraud agar plate. Plates were incubated at 37°C for 24-48 hours. At the end identification of microbial isolates was based on colony morphology, microscopy after Gram stain and biochemical test. **Results:** This study revealed 23 microbial isolates from HCWs. The prevalence of positive isolates was 65.21% Staphylococcus aureus, 17.39% E.Coli and 17.39% Staphylococcus epidermidis. **Conclusions:** HCWs carry high levels of bacteria on their hands. Nearly one third of HCWs have contaminated hands with microbial agents. Hands contamination is associated with high risk of developing nosocomial infection at the hospital. Hand washing remain one of the main ways in infection prevention.**Key words:** microbial contamination, hospital, Staphylococcus aureus.

---

## O1-1 A prediction model for DNA mismatch repair-deficient colorectal cancer

Streaming  
Room3

**Authors:** Kenichi Chikatani<sup>1</sup>, Tetsuya Ito<sup>1</sup>, Noriyasu Chika<sup>1</sup>, Satoshi Hatano<sup>1</sup>, Yoshitaka Toyomasu<sup>1</sup>, Yoshiko Mori<sup>1</sup>, Okihide Suzuki<sup>1</sup>, Toru Ishiguro<sup>1</sup>, Hidetaka Eguchi<sup>2</sup>, Yoichi Kumagai<sup>1</sup>, Keiichiro Ishibashi<sup>1</sup>, Erito Mochiki<sup>1</sup>, Yasushi Okazaki<sup>2</sup>, Hideyuki Ishida<sup>1</sup>

**Organisation:** <sup>1</sup>Department of Digestive Tract and General Surgery, Saitama Medical Center, Saitama Medical University, Saitama, Japan; <sup>2</sup>Diagnostics and Therapeutics of Intractable Diseases, Intractable Disease Research Center, Juntendo University Graduate School of Medicine, Tokyo, Japan

### Abstract:

**Background/Aim:** Patients with DNA mismatch repair-deficient (dMMR)/high frequency microsatellite instability (MSI-H) CRC is ineligible for post-operative adjuvant chemotherapy with fluorouracil, may be a candidate for anti-PD-1 antibodies, and may have Lynch syndrome. The prevalence of dMMR/MSI-H CRC are 5-6% in Asia, it is desirable to identify dMMR/MSI-H efficiently in clinical practice. We developed a prediction model for dMMR CRC using clinicopathologic features.

**Patients and Methods:** Medical records were reviewed for 1147 patients who underwent resection of stage I–IV CRC from March 2005 to April 2014 in whom universal screening for LS using immunohistochemistry for MMR proteins had been undertaken. The prevalence of dMMR CRC was 5.2%. Univariate and multivariate logistic regression analyses were used to build a prediction model of dMMR CRC.

**Results:** Age [≥75 years old] (OR: 2.08, 95% CI: 1.14–3.80,  $P = 0.02$ ), tumor location [right-sided colon] (OR: 12.8, 95% CI: 5.62–29.3,  $P < 0.01$ ), main histologic features [poor differentiation] (OR: 5.30 95% CI: 2.46–11.4,  $P < 0.01$ ), maximum tumor size [≥65 mm] (OR: 6.31, 95% CI: 3.39–11.7,  $P < 0.01$ ), and stage [I/II] (OR: 3.49, 95% CI: 1.76–6.82,  $P < 0.05$ ) were independent significant variables that predicted dMMR CRC.

We created a formula for predicting the likelihood of dMMR [Jenkins et al. *Gastroenterology*. 2007], PredictionScore = 0.7\*[Age under 75] + 2.6\*[Right-sided tumor] + 1.7\*[Poor differentiation] + 1.8\* [Tumor size over 65 mm] + 1.2\*[Stage I/II]. Scores ranged from 0 to 8.0 points with the probabilities ranging from 0.2% to 83%. The AUC was 0.89.

**Conclusion:** dMMR CRC can be identified efficiently using clinicopathologic features obtained in daily clinical practice.

**O1-2 Skeletal muscle depletion combined with neutrophil-to-lymphocyte ratio predicts survival of patients with metastatic colorectal cancer receiving palliative chemotherapy**

Streaming  
Room3

**Authors:** Daisuke Takayanagi, Tetsutaro Nemoto, Noriyuki Isohata, Hajime Matsuida, Daiki Nemoto, Masato Aizawa, Kenichi Utano, Kazutomo Togashi, Shungo Endo

**Organisation:** Department of Coloproctology, Aizu Medical Center, Fukushima Medical University, Fukushima, Japan

**Abstract:**

**Aim:**

Increasing evidence indicates that skeletal muscle mass (SMM) loss and neutrophil-to-lymphocyte ratio (NLR) are associated with poor survival in patients with unresectable colorectal cancer (uCRC). We assessed the clinical outcome of uCRC patients receiving chemotherapy according to SMM loss and NLR.

**Methods:**

A total of 78 patients with uCRC who underwent systemic chemotherapy between December 2012 and June 2019 were retrospectively enrolled. The bilateral psoas muscle cross-sectional area at the superior border of the fourth lumbar vertebra was measured using computed tomography (CT), and the psoas muscle index (PMI) was determined. SMM loss was defined as a decrease in PMI of  $\geq 5\%$  compared to CT of 3 months after chemotherapy. The NLR was calculated as the absolute neutrophil count divided by the absolute lymphocyte count measured at the chemotherapy start. The cutoff value of NLR was defined as 3.0. Patients were classified into four groups according to SMM loss and NLR statuses: SMM loss/high NLR, SMM loss/low NLR, non-SMM loss/high NLR, and non-SMM loss/low NLR.

**Results:**

There were 31 patients (39.7%) who experienced SMM loss, and patients with SMM loss had significantly shorter OS than those without SMM loss (median 15.3 vs 30.3 months; log-rank,  $p < 0.001$ ). The OS of SMM loss/high NLR was significantly lower than that in all other groups (median 11.8 vs 15.4 vs 21.5 vs 34.2 months; log-rank,  $p < 0.001$ ). On multivariate analysis, SMM loss/high NLR was an independent prognostic factor for shorter OS (HR: 4.46, 95%CI: 2.32-8.57,  $p < 0.001$ ).

**Conclusions:**

There was a significant correlation between SMM loss with NLR statuses and the prognosis of patients with uCRC who were receiving chemotherapy. Intensive supportive care is needed in these patients.

---

**O1-3**    **The identification of the middle rectal artery detected by contrast-enhanced magnetic resonance imaging is a predictive factor of lateral lymph node metastasis in lower rectal cancer**    Streaming Room3

**Authors:** Yosuke Iwasa<sup>1</sup>, Fumikazu Koyama<sup>1,2</sup>, Nagaaki Marugami<sup>3</sup>, Hiroyuki Kuge<sup>1</sup>, Takayuki Nakamoto<sup>1,2</sup>, Shinsaku Obara<sup>1</sup>, Kohei Fukuoka<sup>1</sup>, Yayoi Matsumoto<sup>1</sup>, Takeshi Takei<sup>1</sup>, Tomomi Sadamitsu<sup>1</sup>, Kimihiko Kichikawa<sup>3</sup>, Masayuki Sho<sup>1</sup>

**Organisation:** <sup>1</sup>Department of Surgery, Nara Medical University, Nara, Japan; <sup>2</sup>Department of Endoscopy, Nara Medical University, Nara, Japan; <sup>3</sup>Department of Radiology, Nara Medical University, Nara, Japan

**Abstract:**

**Purposes:** The impact of radiological identified middle rectal artery (MRA) in the association with lateral lymph node (LLN) metastasis in lower rectal cancer patients has not been investigated. The present study investigated the relationship between MRA identified by contrast-enhanced magnetic resonance imaging (ceMRI) and LLN metastases. **Methods:** Data from 102 lower rectal cancer patients who underwent preoperative ceMRI between 2008 and 2016 were reviewed retrospectively. The MRA identification was evaluated by two radiologists. Correlations between clinicopathological findings and LLN metastasis were analyzed. **Results:** MRA was detected in 67 patients (65.7%), being found bilaterally in 32 (31.4%) and unilaterally in 35 (34.3%). Tumor size, presence of MRA, and clinical lateral lymph node (cLLN) metastasis were significantly correlated with LLN metastasis. A multivariate analysis showed that presence of MRA ( $P=0.045$ ) and cLLN metastasis ( $P=0.001$ ) were independent risk factors for LLN metastasis. Furthermore, the sensitivity and negative predictive value of MRA for LLN metastasis were 95% and 97.1%, respectively. **Conclusions:** The presence of MRA on ceMRI is a significant predictive factor of LLN metastasis; conversely, its absence can help identify lower rectal cancer patients whose treatment for the LLN area can be omitted.

---

## O1-4 The clinical significance of RAS status in patients with colorectal liver metastasis

Streaming  
Room3

**Authors:** Kiichi Sugimoto, Yuki Ii, Takahiro Irie, Megumi Kawaguchi, Aya Kobari, Hirotaka Momose, Ryoichi Tsukamoto, Kazumasa Kure, Kumpei Honjo, Yu Okazawa, Rina Takahashi, Hisashi Ro, Masaya Kawai, Shingo Kawano, Shinya Munakata, Makoto Takahashi, Yutaka Kojima, Yuichi Tomiki, Kazuhiro Sakamoto

**Organisation:** Department of Coloproctological Surgery, Juntendo University Faculty of Medicine, Tokyo, Japan

### Abstract:

**Introduction** Although the molecular genetics of RAS in colorectal cancer has been extensively investigated, its clinical and prognostic impact in colorectal liver metastases (CRLM) has only recently been examined. Our aim in the current study was to investigate the clinical and prognostic significance of RAS status in CRLM. **Materials and Methods** Ninety-four patients with CRLM, who had undergone resection of primary tumor of the colon and rectum, were enrolled in this study. Patients were ineligible if they had synchronous or metachronous multiple cancers or underwent preoperative treatment. The patient backgrounds, clinicopathological factors and long-term outcome (cancer-specific survival : CSS) were analyzed. **Results** In the whole cohort with CRLM, the patients with RAS mutation significantly had more highly advanced hepatic lesions (number of hepatic lesions  $\geq 5$  and maximum diameter of hepatic lesion  $\geq 50$ mm) ( $p=0.006$ ). The patients with RAS mutation demonstrated a tendency towards higher proportion of female ( $p=0.09$ ), right-sided colon ( $p=0.09$ ), poorly differentiated tumor ( $p=0.08$ ). In patients without resection of CRLM, the patients with RAS mutation significantly had more highly advanced hepatic lesions ( $p=0.008$ ). In patients with resection of CRLM, the patients with RAS mutation demonstrated a tendency towards higher proportion of synchronous extrahepatic metastases ( $p=0.10$ ). The RAS status had no significant impacts in CSS in both patients with and without resection of CRLM (HR: 1.34, 95% CI: 0.43-4.17,  $p=0.61$ ; HR: 0.67, 95% CI: 0.37-1.23,  $p=0.20$ , respectively). **Discussion** Our current study demonstrated the correlations between the RAS status and highly advanced hepatic lesions in CRLM. However, there were no prognostic implications of RAS status in CRLM.

---

**O1-5 Treatment results of locally recurrent rectal cancer undergoing preoperative chemoradiation therapy**

Streaming  
Room3

**Authors:** Junichi Sakamoto, Heita Ozawa, Hiroki Nakanishi, Shin Fujita

**Organisation:** Department of colorectal surgery, Tochigi Cancer Center, Tochigi, Japan

**Abstract:**

Purpose: The aim of this study was to clarify the treatment results of preoperative chemoradiation therapy (CRT) for locally recurrent rectal cancer (LRRC). Methods: Between January 2009 and December 2016, eight patients with LRRC underwent surgical resection undergoing CRT. We examined clinicopathological characteristics and long-term outcomes retrospectively. Results: The median age of patients was 63 years (range: 43-74 years), and seven were male. The median time from primary tumour resection to the diagnosis of LRRC was 18.9 months (range: 5.2-61.9 months). One patient had lung metastasis. All patients received chemotherapy with irinotecan plus oral S-1 and radiationtherapy (45 Gy in 25 fractions of 1.8 Gy). Grade three adverse effects was reported in only one patients, and seven patients have accomplished CRT. The median operative durations were 278 minutes (range: 188-628 minutes) and the median estimated blood loss was 678 grams (range: 95-2667 grams). The rate of R0-resection was 87.5%. Six patients experienced major complications (Clavien-Dindo classification IIIa). There was no 30-day mortality. The median follow-up was 45.3 months (range: 30.0-72.6 months). The 3-year overall survival rates was 75%, and recurrence-free survival and locally recurrence-free survival rate were 50% and 87.5%, respectively. Conclusions: It was suggested that preoperative CRT for LRRC may contribute to distant and local control; however, clinical measures to perioperative complications should be seriously reconsidered.

---

---

**O1-6** A case of anastomotic recurrent descending colon cancer successfully treated with single-incision laparoscopic partial colectomy with intracorporeal anastomosis

Streaming  
Room3

**Authors:** Yozo Suzuki, Shingo Noura, Kazuki Odagiri, Yoshitomo Yanagimoto, Kozo Noguchi, Hiroshi Takeyama, Junzo Shimizu, Tomono Kawase, Hiroshi Imamura, Takashi Iwasawa, Naohiro Tomita, Keizo Dono

**Organisation:** Department of Surgery, Toyonaka Municipal Hospital, Osaka, Japan

**Abstract:**

[Background] In the surgery for partial colectomy for anastomotic recurrent descending colon cancer, middle colic artery and vein of oral colon and inferior mesenteric artery and vein of anal colon are possible limiting factors of mobilization for anastomosis. Intracorporeal anastomosis (IA) is potentially beneficial in reducing mesenteric traction and lowering risk of mesenteric twist during anastomosis construction, possibly leading to early recovery of intestinal function after surgery. Most of the reports about IA are of multiport right-sided colectomy and there are few reports of left-sided colectomy and of single-incision laparoscopic surgery (SILS). [Case Presentation] The case was a male in his 60s, who had laparoscopic partial colectomy for descending colon cancer which resected left colic artery 8 years ago and followed up for 5 years without the evidence of recurrence. He was re-consulted for further examination of positive fecal occult blood test, which reached the diagnosis of anastomotic recurrence of descending colon cancer, and was referred to our hospital. We placed 3-cm longitudinal incision in umbilicus with open method and started pneumoperitoneum. A Lapprotector and EZ access with one 12-mm port and two 5-mm ports were then placed. After the adhesiolysis, the intracorporeal resection of the lesion was performed preserving middle colic artery/ vein and S1 artery/ vein. Then, after the recovery of the specimen, intracorporeal antegrade functional end-to-end anastomosis was performed. The postoperative course was smooth and discharged on postoperative day 8. [Conclusion] The IA can be a good option for single-incision laparoscopic colectomy when the colonic and vascular tension would be the limiting factor of anastomosis.

---

## O2-1 Site-dependent risk factors for local recurrence after rectal cancer surgery

Streaming  
Room3

**Authors:** Tadahiko Masaki<sup>1</sup>, Hiroyoshi Matsuoka<sup>1</sup>, Tomokazu Kishiki<sup>1</sup>, Koichiro Kojima<sup>1</sup>, Ayako Tonari<sup>2</sup>, Nobuyoshi Aso<sup>1</sup>, Ayumi Beniya<sup>1</sup>, Aiko Iioka<sup>1</sup>, Takashi Wakamatsu<sup>1</sup>, Eiji Sunami<sup>1</sup>

**Organisation:** <sup>1</sup>Department of Surgery, Kyorin University, Tokyo, Japan; <sup>2</sup>Department of Radiation Oncology, Kyorin University, Tokyo, Japan

### Abstract:

**Background:** Quite few studies examined the risk factors for local recurrence after rectal cancer surgery with respect to local recurrence sites.

**Methods:** Local recurrence sites were categorized into axial, anterior, posterior, and lateral (pelvic sidewall) according to the previous reports. Axial, anterior, and posterior type were combined as the “other” local recurrence type. Among 76 patients enrolled into our prospective randomized controlled trial (UMIN000021353) examining oncological efficacy of intraoperative radiotherapy (IORT), univariate and multivariate Cox regression analyses were conducted to reveal risk factors for either lateral or the “other” type local recurrence.

**Results:** Multivariate analysis revealed that tumor distance from the anal verge was significantly and independently correlated with pelvic sidewall recurrence (~2.0/2.1~4.0/4.1cm~; OR, 0.316; 95% C.I., 0.123~0.814; p=0.017), while depth of tumor invasion (T1, T2/T3/T4; OR, 33.076; 95% C.I., 3.021~362.103; p=0.004) and radial margin status (no/yes; OR, 43.217; 95% C.I., 8.264~226.009; p<0.001) were significantly and independently correlated with the “other” type of local recurrence.

**Conclusion:** Risk factors for local recurrence after rectal cancer surgery were totally different with respect to the intra-pelvic recurrent sites. Tumor-specific probability of either pelvic sidewall or the “other” type of local recurrence can be inferred, and this information will be useful to make a plan for adjuvant therapy and surveillance program.

**O2-2 The availability of specimen MRI to evaluate pRMstatus intraoperatively in patients with advanced rectal cancer**

Streaming Room3

**Authors:** Terufumi Yoshida, Madoka Hamada, Miki Soeda, Yuki Matsui, Fusao Sumiyama, Toshinori Kobayashi, Yuki Matsumi, Hisanori Miki, Mitsugu Sekimoto

**Organisation:** Department of Surgery, Kansai Medical University, Osaka, Japan

**Abstract:**

**Introduction** We examined the availability of specimen MRI to evaluate pRM status intraoperatively in patients with advanced rectal cancer. **Materials and Methods** (Median for continuous variables) We retrospectively examined the availability of the specimens MRI for the rectal cancer required beyond TME surgery in terms of specimenCRM (sCRM) and specimenRM (sRM). Between June 2017 and February 2020, 9 cases of abdominal perineal rectal excision (APE) and one case of posterior total pelvic dissection using prone jackknife position first operation were enrolled in this study. The extent of combined resection of the adjacent organs (levator ani muscles, prostate, vagina, et al) was determined with preoperative MRI. The resected specimens in all cases underwent specimen MRI before formalin fixation. **Results** Age: 73 years (59-77). Male/female: 6/4. Preoperative chemoradiotherapy (+/-): 9/1. Median tumor location from anal verge was 0cm. Circumference of the lesions (with overlap): anterior 9, posterior 4, right 2, left 6. Preoperative pathology of the tumor: well to moderate differentiated 9, muc 1. T factor (TNM8th) in all patients were cT4b and ycT in all CRT cases were ycT4b. Three cases (male 1, female 2) were diagnosed to develop into anterior organs requiring prostate shaving, vaginal wall resection and pTPE. The median sCRM was 3.8 mm (1.3-13.7) and all patients had sCRM $\geq$ 1 mm. Pathological diagnosis revealed the tumors were pT2/3/4/CR:2/5/1/2 with pCRM of 7 mm (0.5-15). Only one case required prostate shaving was pCRM<1 mm. All patients were pRM0. **Conclusion** pRM0 resection can be achieved preoperative planning with MRI T2 imaging. The sRM assessment is considered useful for pRM assessment especially for cases required combined resection of adjacent organs.

---

**O2-3**    **Micro and Micro level analysis of Indocyanine green fluorescence in tumor-draining lymph nodes in colorectal cancer**

Streaming  
Room3

**Authors:** Kenji Okita, Toshihiko Nishidate, Koichi Okuya, Emi Akizuki, Atsushi Hamabe, Masayuki Ishii, Tetsuta Satoyoshi, Ichiro Takemasa

**Organisation:** Department of Surgery, Surgical Oncology and Science, Sapporo Medical University, Hokkaido, Japan

**Abstract:**

**Purpose:** This study aimed to reveal the mechanism and significance of Indocyanine green (ICG) fluorescence in tumor-draining lymph node (LN)s in colorectal cancer (CRC).

**Experimental Design:** ICG was preoperatively injected into the submucosa around the tumor in CRC patients scheduled to undergo primary resection. Thereafter, operation was conducted using near-infrared fluorescence (NIF). Ex vivo, harvested LNs were categorized according to fluorescence positivity and examined pathologically. Additionally, internal structure of tumor-draining LNs were investigated using fluorescence microscope.

**Results:** Overall, 155 patients underwent surgery guided by the real-time ICG NIF imaging. In 50 cases, 1017 LNs were examined about association between ICG fluorescence and metastasis. There were 2.8% and 5.8% metastatic LNs in fluorescence positive and -negative groups, respectively. Fluorescence microscopy imaging showed that ICG fluorescence was present in the normal LN structural region but not in the cancer tissue region in LN. In addition, ICG fluorescence was observed in tumor-draining LNs up to the cancer tissue area occupied 90% of each LN.

**Conclusions:** As a result of this study, it was found that the fluorescence by ICG did not show the metastasis itself but revealed the lymphatic flow at the point in time when the metastasis was established.

---

**O2-4**    **Criteria for diverting stoma creation in laparoscopic low anterior resection for rectal cancer**

Streaming  
Room3

**Authors:** Ai Sadatomo, Koji Koinuma, Satoshi Murahashi, Gaku Ota, Yuko Honma, Kenichi Oshiro, Daishi Naoi, Hisanaga Horie, Toshiki Mimura, Alan Kawarai Lefor, Naohiro Sata

**Organisation:** Department of Surgery, Division of Gastroenterological, General and Transplant Surgery, Jichi Medical University, Tochigi, Japan

**Abstract:**

**Purposes:** Diverting stoma (DS) is created to reduce morbidity and mortality associated with anastomotic leakage (AL) in patients undergoing laparoscopic low anterior resection (Lap-LAR) for rectal cancer. There are no evidence-based guidelines for the creation of DS in Lap-LAR. The aim of this study is to evaluate original criteria for DS construction in Lap-LAR. **Methods:** One hundred forty-nine patients who underwent Lap-LAR with total mesorectal excision from January 2013 to June 2019 were enrolled in a retrospective cohort study at Jichi Medical University hospital. DS was constructed based on locally derived criteria including preoperative chemo-radiotherapy or chemotherapy, anastomosis within the anal canal, multiple-stage stapled rectal resection, incomplete anastomosis ring, positive air leak test and male gender with a large tumor. **Results:** Fifty-nine patients (40%) underwent DS creation in Lap-LAR. The overall symptomatic AL rate was 5.1% (3/59) in patients with DS (DS+ group) and 2.2% (2/90) in patients without DS (DS- group) ( $p>.05$ ). All patients with AL in the DS- group required therapeutic interventions or re-laparotomy. Patients with AL in the DS+ group did not undergo reoperation. The DS+ group had a significantly higher incidence of post-operative ileus and longer post-operative hospital stay. **Conclusions:** The AL rates in the DS+ group was slightly higher than the DS- groups, although not statistically significantly higher. The original criteria for DS creation are useful to select patients at higher risk of AL. This study also shows that applying criteria for DS creation may reduce the impact of therapeutic interventions in patients with AL. Additional studies are needed to further refine the criteria for DS creation.

**O2-5 The possibility of a transanal tube as an alternative to diverting stoma in terms of preventing severe postoperative anastomotic leakage after laparoscopic low anterior resection**

Streaming Room3

**Authors:** Madoka Hamada, Yuki Masui, Fusao Sumiyama, Teruhumi Yoshida, Toshinori Kobayashi, Matsumi Yuki, Hisanori Miki, Tomoko Matsumoto, Mitsugu Sekimoto

**Organisation:** Surgery, Kansai Medical University Hospital, Osaka, Japan

**Abstract:**

Purpose

The purpose of this study was to reveal whether a transanal tube (TAT) could act as an alternative to a diverting stoma (DS) after laparoscopic low anterior resection.

Patients and Methods

A total of 89 consecutive rectal cancer patients whose tumors were located within 15 cm from the anal verge who underwent laparoscopic low anterior resection without a DS at our institution between May 12, 2015 and August 31, 2019 were included. All patients received a postoperative Gastrografin enema study (GES) through a TAT between the 3rd and 10th postoperative day. We planned two study protocols. From May 12, 2015 to March 31, 2017, we conducted a second operation including a DS construction immediately when radiological anastomotic leakage (rAL) was detected (Group A, n=46). From April 1, 2017 to August 31, 2019, we continued TAT drainage even if rAL was detected and repeated the GES weekly until the rAL was healed (Group B, n=43).

Results

In Group A (n=46), 14 cases of rAL were included, 11 of which underwent stoma construction. The remaining 3 patients who refused stoma construction were treated conservatively. In Group B (n=43) rAL was encountered in 10, and 7 of these patients were treated successfully by TAT continuous drainage. The rate of DS in Group B (7.0%) was significantly lower than that in Group A (23.9%) ( $p=0.028$ ).

Conclusions

A TAT could act as a DS to mitigate the symptoms of anastomotic leakage after laparoscopic low anterior resection.

**O2-6 Transanal tube is effective for prevention of anastomotic leakage after minimally invasive surgery for patients with locally advanced rectal cancer:single-center experience**

Streaming Room3

**Authors:** Dae Hee Pyo, Jung Wook Huh, Woo Yong Lee, Seong Hyeon Yun, Hee Cheol Kim, Yong Beom Cho, Yoon Ah Park, Jeong Kyong Shin

**Organisation:** Department of Surgery, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea

**Abstract:**  
**Aim**

We evaluated the effectiveness of transanal tube (TAT) placement for the prevention of anastomotic leakage after minimally invasive surgery in patients with locally advanced rectal cancer treated with neoadjuvant concurrent chemoradiotherapy(nCCRT).

**Methods**

From February 2007 to July 2019, a total of consecutive 1296 patients with locally advanced rectal cancer were undergone laparoscopic or robotic low anterior resection in the means of double-stapling method after nCCRT. We excluded 294 patients who received TAT placement nor diverting stoma. Among the remaining 1002 patients, 264 (26.3%) patients received TAT and 738 (73.7%) patients received diverting stoma (DS). We compared the rate of anastomosis leakage, operation time, hospital stay, perioperative complications with propensity score matching analysis, and analyzed the risk factors for anastomotic leakage.

**Result**

After 1:1 matching, each group consisted of 169 patients. There were no significant differences between groups in the age, sex, body mass index, smoking history, diabetes, level of anastomosis, location of tumor, and type of surgery. The number of anastomotic leakage were 15 (8.9%) and 11 (6.5%) in TAT and DS group, respectively ( $p=0.54$ ). TAT group showed shorter operation time (181 min vs 217 min in TAT and DS group,  $p<0.01$ ), and low incidence of postoperative ileus ( $p=0.03$ ) and wound dehiscence ( $p=0.05$ ). The independent risk factor for anastomotic leakage was high BMI and lower location of tumor.

**Conclusion**

TAT placement is effective as DS for prevention of anastomotic leakage after minimally invasive surgery for patients with locally advanced rectal cancer treated with nCCRT.

---

**O3-1 A rectal cancer case with persistent descending mesocolon (PDM) that we treated with robot-assisted surgery**

Streaming  
Room3

**Authors:** Aya Kobari, Megumi Kawaguchi, Ryoichi Tsukamoto, Hisashi Ro, Kazumasa Kure, Kunpei Honjo, Rina Takahashi, Yu Okazawa, Masaya Kawai, Shingo Kawano, Shinya Munakata, Syun Ishiyama, Kiichi Sugimoto, Hiromitsu Komiyama, Makoto Takahashi, Yutaka Kojima, Kazuhiro Sakamoto

**Organisation:** Department of Coloproctological Surgery, Juntendo University Faculty of Medicine, Tokyo, Japan

**Abstract:**

**[Background]** Persistent Descending Mesocolon (PDM) is an anomaly of intestinal fixation in which the descending mesocolon does not merge with the dorsal and lateral parietal peritoneum. One of the features of PDM is that the sigmoid colon adheres to the mesentery and the right pelvic wall, and the branches of the inferior mesenteric artery are radially branched. Due to these characteristics, PDM makes the surgical procedures difficult especially in endoscopic surgery. We report a rectal cancer case with PDM that we treated with robot-assisted surgery.

**[Case presentation]** A 76-year-old male who complained abdominal distension was diagnosed with rectal cancer by colonoscopy. By further examinations, esophageal cancer and lung cancer were also found. Esophageal cancer and rectal cancer were suspected to have metastasized to lymph nodes. After Neoadjuvant chemotherapy, he underwent the robot-assisted Hartmann operation prior to other cancers. The descending colon was not fixed to the parietal peritoneum, and the sigmoid colon was highly adherent to the mesentery. After dissecting the adhesion laparoscopically, we started robot-assisted procedures. Since it was very difficult to identify the appropriate layer by medial approach, we mainly proceeded with lateral approach. We preserved the left colic artery, and used indocyanine green fluorescence before cutting the sigmoid artery. The operation time was 415 min and the volume of bleeding was 25 ml.

**[Conclusions]** When performing endoscopic surgery on patients with PDM, more attention must be paid to the identification of the dissection layer and blood vessels. We herein report a rectal cancer case with PDM in which we successfully performed robot-assisted surgery safely.

---

---

**O3-2 Surgical outcomes of robotic-assisted surgery for rectal tumor**Streaming  
Room3

**Authors:** Kentaro Hokonohara, Naotaka Kuriyama, Yoshiaki Fujimoto, Tomoko Jogo, Qingjiang Hu, Ryota Nakanishi, Yuichi Hisamatsu, Koji Ando, Yasue Kimura, Eiji Oki, Masaki Mori

**Organisation:** Department of Surgery and Science, Kyushu University, Fukuoka, Japan

**Abstract:**

**Background:** Robotic-assisted surgery enables surgeons to perform precise and ideal surgeries procedure by manipulating forceps with a multijoint function under a stable 3D image in the narrow pelvic cavity. We aimed to evaluate the short-term outcome of robotic-assisted surgery for rectal tumor.

**Patients and methods:** Patients who underwent robotic-assisted surgery for rectal tumor in our department between August 2016 and April 2020 were analyzed. Patient characteristics, perioperative factors, and complications were investigated.

**Results:** 48 patients (male: 28, female: 20, median age: 66 (35-89) years old) underwent robotic-assisted surgery. The median Body Mass Index (BMI) of these patients was 22.5 (15-29.7). Operative procedures were high anterior resection (HAR) for 8 patients, low anterior resection (LAR) for 32 patients, intersphincteric resection (ISR) for 3 patients and abdominoperineal resection for 5 patients, respectively. Ten patients received preoperative treatments (chemotherapy: 6, chemoradiotherapy: 4). The median operation time was 304 (187-452) min, the median console time was 167 (86-313) min, the median blood loss was 23 (1-570) ml, and the median postoperative hospital stay was 14 (6-43) days. One case of conversion to laparotomy was observed. Four patients showed postoperative complications (Clavien-Dindo classification Grade 3a and 3b), which were anastomotic leakage (n=3) and bowel obstruction (n=1).

**Conclusion:** Robotic-assisted surgery of rectum seems to be performed safely.

---

---

**O3-3 Long term outcome of lower advanced rectal cancer patients treated with total mesorectal excision with lateral pelvic lymph node dissection after neoadjuvant radiotherapy or chemoradiotherapy**

Streaming  
Room3

**Authors:** Wataru Sakamoto, Shinji Ohki, Misato Ito, Leo Yamada, Hisashi Onozawa, Hirokazu Okayama, Shotaro Fujita, Motonobu Saito, Tomoyuki Momma, Koji Kono

**Organisation:** Department of G-I tract Surgery, Fukushima Medical University, Fukushima, Japan

**Abstract:**

**Purpose:** In Japan, the standard strategy for advanced rectal cancer is TME plus lateral pelvic lymph node dissection(LPND). On the other hand, the standard in western countries, the standard is the neoadjuvant chemoradiotherapy (nCRT) plus total mesorectal excision (TME). However, the clinical benefit of adding chemotherapy to neoadjuvant radiotherapy (nRT) is still unclear. There is accumulating evidence either nCRT or LPND may not be sufficient for advanced rectal cancer. We evaluated the outcome and the safety of nRT/nCRT+TME+LPND and also analyzed the impact of lateral lymph node metastasis (LPNM) on the prognosis.

**Methods:** Patients diagnosed clinical stage II and III lower rectal cancer and received nRT/nCRT+TME+LPND from 1999 to 2012 at our hospital were enrolled. Adverse events (AE), surgery-related complications (SRC), and therapeutic effects were analyzed retrospectively.

**Results:** 50 cases (nRT:25, nCRT:25 ) were enrolled. Any significant differences were not observed in prognosis, AE, and SRC between nRT group and nCRT group except for grade 2 dermatitis and the rate of pathological therapeutic effect grade2+3, which were higher in nCRT group. The patients with LPNM showed significantly lower 5-y overall survival and 5-y relapse-free survival as compared to those without LPNM.

**Conclusion:** there were no differences in OS, RFS, LRFS between nRT and nCRT, although nCRT had significantly greater histological therapeutic effect including pCR rate in comparison to nRT. Moreover, nRT/nCRT plus TME plus LPND showed pathological LPNM existed in 12% even after nRT/nCRT, therefore LPND would be necessary for local control. However, the local control was not linked to systemic control, indicating the importance of additional systemic chemotherapy peri-operatively.

---

## O3-4 Selective surgical approaches for mid and low rectal cancer

Streaming  
Room3

**Authors:** Junichiro Kawamura, Masayoshi Iwamoto, Yusuke Makutani, Yoshinori Yane, Hokuto Ushijima, Ryotaro Ogawa, Yasumasa Yoshioka, Koji Daito, Tadao Tokoro, Kazuki Ueda

**Organisation:** Department of Surgery, Kindai University, Osaka, Japan

### **Abstract:**

**Introduction:** Conventional laparoscopic surgery (CLS) for mid and low rectal cancer remains a challenging procedure. Both robotic-assisted laparoscopic surgery (RAS) and trans-anal TME (TaTME) were introduced as promising new technologies which could overcome the intrinsic limitations of CLS. We now prefer to perform RAS to most of the patients with rectal cancer. However, female patients or patients with upper rectal cancers are treated preferably with CLS and patients with positive CRM or giant tumors are with TaTME. The purpose of this study was to evaluate the feasibility of our selective approaches for mid and low rectal cancer.

**Methods:** Patients with mid and low rectal cancer who underwent surgery in Kindai University from 2017 were enrolled. We compared the short-term outcomes after each procedure.

**Results:** A total of 134 patients were enrolled. CLS was performed in 44, RALS in 44, TaTME in 34 and open surgery in one patient. The tumor distance from the anal verge in CLS, RAS, and TaTME was 8, 8, and 4.5cm. The tumor size in each group was 35, 28, and 40mm. Neoadjuvant therapy was conducted in 13.9%, 20.5%, and 50% of each group. LLND was performed in 11.6%, 6.8%, and 41.2%. The median operative time was 314, 439, and 336 mins, and the median blood loss was 5.0, 10, and 70.5 ml. Positive radial margins occurred in 9.3%, 0%, and 11.8%.

**Conclusions:** RALS required longer operative time and lower blood loss. Short-term results of TaTME was acceptable compared to other procedures, as it was performed for more advanced cases. Our current practice is to offer a robotic, laparoscopic, or transanal approach to patients based on the assessment of each patient's individual situation. Our selective approaches for the treatment of mid and low rectal cancer have been feasible.

---

**O3-5 Single port robot assisted abdominoperineal resection : a case report of first 4 experience**

Streaming Room3

**Authors:** Moonsuk Choi, Seong Hyeon Yun, Jung Kyong Shin, Yoon Ah Park, Jung Wook Huh, Yong Beom Cho, Hee Cheol Kim, Woo Yong Lee

**Organisation:** Department of Surgery, Sungkyunkwan University School of Medicine, Seoul, Korea

**Abstract:**

**Introduction**

Recently, the possibility of APR using a robot has already been demonstrated through other studies. However, there has been no report on APR for rectal cancer using the single port robot platform. In response, we described the clinical experience of APR using a SPR.

**Method and material**

We provide a review clinical data related to single port robot surgery within the field of colorectal surgery. From April 2019 to March 2020, APR using a single port robot platform (SPR) was performed in a total of 4 patients. Three patients had a trans umbilical approach and one patient had a stomy site approach.

**Result**

The average operation time was 307 minutes and the patient docking time of the SPR platform was 133.5 minutes. There were no complications during the operation and no laparoscopy or open conversion. No reoperation occurred within 30 days. Postoperative complications occurred in two of the patients. In both patients, urinary retention occurred on the 4th day of POD. No other complications occurred. The average length of the safety resection margin from Tumor was 17.7 cm (9-40) for the proximal and 3.4 cm (1.4-5) for the distal margin. No cancer cells were found in the proximal and distal margin.

One patient had a positive circumferential margin. Regional lymph nodes harvested an average of 17.8 (9-26), and two and four LN metastasis were identified in two patients.

**Discussion**

we found that abdominoperineal resection has safety and feasibility in surgery using a SPR platform. Intraoperative event did not occur in 4 patients who underwent surgery, and no postoperative complication occurred. However, it is still considered that further development of surgical techniques and advice instruments will be needed.

---

**O3-6 How should we evaluate the specimen of pelvic exenteration for primary or locally recurrent rectal cancer?**

Streaming Room3

**Authors:** Toshisada Aiba<sup>1</sup>, Kay Uehara<sup>1</sup>, Atsushi Ogura<sup>1</sup>, Goro Nakayama<sup>2</sup>, Norifumi Hattori<sup>2</sup>, Yusuke Sato<sup>2</sup>, Yasuhiro Koderu<sup>2</sup>, Tomoki Ebata<sup>1</sup>

**Organisation:** <sup>1</sup>Division of Surgical Oncology, Department of Surgery, Nagoya University Hospital, Aichi, Japan; <sup>2</sup>Department of Gastroenterology, Nagoya University Graduate School of Medicine, Nagoya, Japan

**Abstract:**

«**Aim**» Circumferential resection margin (CRM) less than 1mm is an established predictor for poor oncologic outcome after total mesorectal excision (TME) for rectal cancer. However, “R” classification is still commonly used after beyond TME surgery. The aim of this study is to clarify the impact of radial margin (RM) distance after extended rectal surgery.

«**Methods**» Eighty-two patients with primary or locally recurrent rectal cancer, who underwent pelvic exenteration in curative intent (R0/1) between 2006 and 2018, were retrospectively analyzed. The resected specimens were cut in the transverse plane consisting of serial 5-10 mm slicing of the whole tumor. The closest RM distance was measured according to the “CRM” concept, and the cut-off value of 1mm was adopted. The patients were classified into three groups; A: R0 and RM-, B: R0 but RM+, and C: R1 and RM+.

«**Results**» Twenty-six patients (31.7%) had primary cancer and 56 patients (68.3%) had locally recurrent cancer. The group A, B, and C included 52 (63.5%), 7 (8.5%), and 23 (28.0%) patients, respectively. The 3-year local recurrence rate in the group B (76.2%) and C (68.8%) were significantly higher than that in the group A (16.2%,  $p < 0.001$ ), although those in the group B and C were equivalent ( $p = 0.868$ ). Overall survival in the group B and C were significantly worse than that in the group A ( $p = 0.017$  and  $0.001$ , respectively).

«**Conclusions**» The discrepant rate between the “RM” and “R” classification were 8.5%. Patients with R0 but RM+ had similar oncological outcome to patients with R1. Surgical resection margin should be evaluated by not “R” but “RM” classification.

**O4-1 Recent trends of prognosis and management in patients with familial adenomatous polyposis in a Japanese hospital-based population**

Streaming Room3

**Authors:** Yoshiko Mori<sup>1,2</sup>, Okihide Suzuki<sup>1,2</sup>, Kenichi Chikatani<sup>2</sup>, Nao Kamae<sup>1</sup>, Kunihiro Amano<sup>2</sup>, Satoshi Hatano<sup>2</sup>, Azusa Yamamoto<sup>2</sup>, Keiichiro Ishibashi<sup>2</sup>, Takeo Iwama<sup>2</sup>, Hideyuki Ishida<sup>1,2</sup>

**Organisation:** <sup>1</sup>Department of Clinical Genetics, Saitama Medical Center, Saitama Medical University, Saitama, Japan; <sup>2</sup>Department of Digestive Tract and General Surgery, Saitama Medical Center, Saitama Medical University, Saitama, Japan

**Abstract:**

**Background:** Patients with familial adenomatous polyposis (FAP) have almost a 100% risk of colorectal cancer (CRC) if untreated. In this retrospective study, we described the current incidence and mortality of FAP-associated diseases. **Methods:** Overall, 111 FAP patients, who presented at the Saitama Medical Center between 2001 and 2019, were enrolled. Diagnosis of FAP was made based on APC variants identified in patients themselves (n=77) or first-degree relatives of the patients (n=12). The remaining 14 patients were diagnosed with FAP by typical phenotypes and an autosomal dominant inheritance mode. **Results:** There were 53 men and 58 women. The mean age at FAP diagnosis was 28.5 (11–67) years. The median cumulative survival rates were 71.7 years in men and 71.4 years in women. The standardized mortality ratio (SMR) for FAP was 28.5 (95% confidence interval [CI]: 10.4–62.1) in men and 48.5 (95% CI: 17.8–106) in women. The standardized incidence ratio (SIR) for CRC was 491 in men and 702 in women. The SMR for CRC was 336 (95% CI: 69.2–980) in men and 307 (95% CI: 63.3–897) in women. Of the 12 deaths, the cause of death was CRC in 5 (42%). This trend seems lesser than those previously reported, i.e., 82.2% and 60.6%. The other causes of death included desmoid tumor (n=2), small intestinal cancer (n=2), ovarian cancer (n=1), duodenal cancer (n=1), sepsis (n=1). The SIRs for gastric cancer in men and women and thyroid cancer in women were high; 133, 194, and 736, respectively. **Conclusion:** Although the mortality for FAP remains high, the mortality due to CRC has decreased. Other FAP-associated diseases may be associated with the high mortality for FAP.

**O4-2 Clinical feasibility of genomic DNA screening for hereditary colorectal cancer from the background of cancer genomic medicine and watch and wait strategy in lower rectal cancer**

Streaming Room3

**Authors:** Yoshinaga Okugawa<sup>1,2</sup>, Yuji Toiyama<sup>2</sup>, Hiroyuki Fujikawa<sup>2</sup>, Akira Yamamoto<sup>2</sup>, Shozo Ide<sup>2</sup>, Takahito Kitajima<sup>2</sup>, Tadanobu Shimura<sup>2</sup>, Hiromi Yasuda<sup>2</sup>, Takeshi Yokoe<sup>2</sup>, Masaki Ohi<sup>2</sup>, Makoto Ikejiri<sup>1</sup>, Maki Nakamura<sup>1</sup>, Ikuyo Mochiki<sup>1</sup>, Kaname Nakatani<sup>1</sup>

**Organisation:** <sup>1</sup>Department of Genomic medicine, Mie University, Mie, Japan; <sup>2</sup>Department of Gastrointestinal and pediatric surgery, Mie University, Mie, Japan

**Abstract:**

Background. Comprehensive genomic panel(CGP) was approved by Japanese insurance and it is gradually expanding. From this background, the number of patients of hereditary colorectal cancer(CRC) might increase and clinical approach for secondary findings in CGP is needed. In addition, considering the recent topics of young onset CRC and watch and wait strategy in lower rectal cancer, genomic examination has a pivotal role in decision making in these patients. Patients and Methods. We examined clinical course of 40 patients receiving genomic examination for Lynch syndrome(LS:16 patients), familial adenomatous polyposis(FAP:10 patients), and Li-Fraumeni syndrome(LF:14 patients) in our institute. Results. Sanger sequencing method was conducted for genomic investigation of LS(MLH1, MSH2, MSH6, PMS2), FAP(APC, MUTYH), and LF(TP53). From genomic testing, we identified pathogenic variant of LS in 5 patients, FAP in 7 patients, and LF in 6 patients. These patients are followed up at outpatient clinic. In these patients, one patient with esophageal cancer was diagnosed with LS based on CGP result which revealed the pathogenic variant in MSH2. This patient previously received Nivolumab and showed drastic treatment response. In contrast, another male patient of 31 years-old harboring lower advanced rectal cancer with multiple polyps(>20) in total colorectum received mFOLFOX6 therapy as an induction chemotherapy followed by chemoradiotherapy. His genomic test did not show pathogenic variant. After CRT, clinical complete response was demonstrated and he is currently followed-up without surgery. Conclusion. In line with emerging examination and treatment strategy, we need to create a cross-disciplinary system for medical care to provide new clinical approach for hereditary tumor.

**O4-3** **Current status and issues concerning universal tumor screening for Lynch syndrome at a Japanese cancer center** Streaming Room3

**Authors:** Akira Ouchi<sup>1</sup>, Koji Komori<sup>1</sup>, Takashi Kinoshita<sup>1</sup>, Taihei Oshiro<sup>1</sup>, Masahiro Tajika<sup>2</sup>, Sachiyo Onishi<sup>2</sup>, Kei Muro<sup>3</sup>, Hideaki Bando<sup>3</sup>, Waki Hosoda<sup>4</sup>, Issei Imoto<sup>5</sup>, Nobue Takaiso<sup>5</sup>, Yasuhiro Shimizu<sup>1</sup>

**Organisation:** <sup>1</sup>Department of Gastroenterological Surgery, Aichi Cancer Center Hospital, Aichi, Japan; <sup>2</sup>Department of Endoscopy, Aichi Cancer Center Hospital; <sup>3</sup>Department of Clinical Oncology, Aichi Cancer Center Hospital; <sup>4</sup>Department of Pathology and Molecular Diagnostics, Aichi Cancer Center Hospital; <sup>5</sup>Precision Medicine Center, Aichi Cancer Center Hospital

**Abstract:**

**Background:** Several studies have demonstrated the clinical significance of universal tumor screening (UTS) for Lynch syndrome (LS) to improve the survival of colorectal cancer (CRC) patients.

**Aims:** To report current status and address future issues concerning UTS for LS at a Japanese cancer center.

**Methods:** Consecutive patients who underwent surgical resection for CRC and UTS via immunohistochemical (IHC) analysis of MMR proteins between November 2018 and March 2020 were identified and analyzed.

**Results:** A total of 248 patients were identified with a median age of 69 years old, including 140 (56.4%) males. The numbers of right-colon, left-colon and rectal cancers were 83, 79 and 86, respectively. Overall, 64 (25.8%) patients met the criteria of the revised Bethesda guidelines (rBG), and 11 (4.4%) patients were positive for IHC (deficient MMR with the absence of *BRAF V600E* mutation). Three of the 11 IHC-positive patients did not meet the rBG criteria, whereas 56 of the 237 (95.5%) IHC-negative patients met the rBG criteria (sensitivity and specificity for diagnosing IHC-positive cases: 72.7% and 76.3%, respectively). Six of the 11 (54.5%) IHC-positive patients received genetic counseling (GC), of whom 2 underwent genetic testing (GT), and both (2/248, 0.8%) were found to have LS.

**Conclusions:** Our UTS contributed to the screening of LS candidates; meanwhile, UTS did not always reach GC and GT in the present series. We should remember that GC is useful for predicting the malignancy risks of patients and their families, resulting in early diagnosis and treatment.

---

**O4-4 Safety of laparoscopic surgery for obstructive colorectal cancer after colorectal stenting**

Streaming  
Room3

**Authors:** Hidefumi Nishimori, Tomomi Yajima, Takeshi Sawada, Hideharu Miura, Tomomi Hirama, Keisuke Ohno, Chikashi Kihara, Takahiro Yasoshima, Kuniaki Okada, Fumitake Hata

**Organisation:** Department of Surgery, Sapporo Dohto Hospital Medical Corporation, Hokkaido, Japan

**Abstract:**

[Introduction] Colorectal stenting has become widely used as a tool for the treatment of obstructive colorectal cancer. However, most patients with colorectal cancer that require stenting have a bulky tumor, and due to the presence of edema, the laparoscopic surgery is challenging to perform safely.

[Subjects] Twenty-three of 60 obstructive colorectal cancers in which a colonic stent was placed as bridge-to-surgery in our hospital from April 2012 to December 2019, which were subjected to laparoscopic surgery.

[Results] Patients are ten males and 13 females, and the mean age was 76.1 years. Tumor sites were cecum/ascending colon in 6 cases, transverse in 1, descending in 3, sigmoid in 9, and rectum in 4. The average time of surgery was 16.5 days. The surgical procedures used were ileal resection in 1 case, right hemicolectomy in 5, left hemicolectomy in 3, sigmoidectomy in 5, Hartmann' procedure in 1, anterior resection in 6, and others in 1. Mean operative time was 193.5minutes, and mean blood loss was 164.1cc. Postoperative complications were delirium only in one case (4.3%), with no complications of grade 3 or higher in CD classification. On the other hand, 32 patients underwent traditional laparotomy, and postoperative complications were observed in 40.5%, with an unusually high rate of surgical site infection. There were 10 (31.3%) Grade 3 or higher complications.

[Discussion and Conclusion] Laparoscopic surgery for obstructive colorectal cancer with stenting can be performed safely and is an effective treatment. Although a simple comparison with laparotomy cannot be made due to the bias in the time of stenting and patient background, it was suggested that laparoscopic surgery might be safer for laparotomy.

---

## O5-1 Examination of anal canal squamous cell carcinoma cases

Streaming  
Room3

**Authors:** Keiji Matsuda, Yojiro Hashiguchi, Kentaro Asako, Yuka Okada, Kohei Ohno, Mitsuo Tsukamoto, Yoshihisa Fukushima, Ryu Shimada, Tsuyoshi Ozawa, Tamuro Hayama, Keiji Nozawa

**Organisation:** Department of Surgery, Teikyo University School of Medicine, Tokyo, Japan

### Abstract:

**Aim:** We aimed to analyze cases of anal canal squamous cell carcinoma (SCC) and to clarify their clinical characteristics and treatment results.

**Materials and Methods:** Of the 4983 cases of colorectal cancer, 13 (0.3%) were SCC cases. We retrospectively and clinically examined SCC cases.

**Results:** There were 5 male patients and 8 female. The median age was 70 years (50-86). The chief complaints were anal tumors in 7, hemorrhage in 4, anal pain in 1 and fecal occult blood in 1. According to TNM classification, Stage 0 was in 1 case, 2A in 3, 3A in 2, 3B in 1, 3C in 4, and 4 in 2. The median blood SCC level was 4.25 (0.9-310), and 83% (5/6) was higher than normal level in Stages 3B, 3C and 4, but only 17% (1/6) was in Stages 3A, 2A and 0 ( $p=0.02$ ).

Tumor resection surgery was performed in 3 cases, that is, local resection for Stage 0, abdominoperineal resection for Stage 4 and Stage 3.

Radiation therapy was given to 11 cases and 2 cases as postoperative adjuvant therapy. Radiation dose was median 59 Gy (30-60). Concomitant chemotherapy has been used since 2010, and the chemotherapy regimens were 5-FU + Mitomycin in 5 cases, TS-1 in 1, and 5-FU in 1. The effect of radiation therapy was able to be determined in 7 cases. Complete response (CR) was obtained in 6 cases (86%) of the 7 cases, and remaining 1 case (14%) showed tumor progression after shrinkage by radiation. The 5-year survival rate was 100% for Stage 2 and 50% for Stage 3, and the 2-year survival rate for Stage 4 was 50%.

**Conclusions:** Chemoradiation had a high CR rate and was an effective treatment for SCC. Blood SCC level did not appear to be a marker of early stage SCC.

**O5-2 Image navigation surgery with fluorescent ureteral catheter for the recurrent tumor in the pelvic cavity**

Streaming Room3

**Authors:** Yuki Matsumi, Madoka Hamada, Miki Soeda, Yuki Matsui, Fusao Sumiyama, Terufumi Yoshida, Toshinori Kobayashi, Hisanori Miki, Mitsugu Sekimoto

**Organisation:** Department of Surgery, Kansai Medical University, Osaka, Japan

**Abstract:**

**[Introduction]** NIRC (Near Infrared Ray Catheter) is a 6.0-Fr ureteral catheter containing ICG fluorescent material. We report here on our experience of laparoscopic surgery using NIRC in three cases of recurrent pelvic tumors.

**[Case reports]**

① 56 yo, male: Recurrent rectal cancer after laparoscopic intersphincteric resection(lap ISR) with bilateral lateral pelvic node dissection(LLND).The tumor recurrence was suspected on the levator ani muscles at the left side by the FDG-PET and MRI.Lap abdominoperineal resection was performed under the image guide of NIRC.

② 50 yo, male on chronic dialysis: Recurrent rectal cancer after lap low anterior resection (LAR) with left LLND. The tumor recurrence was suspected at the left vesicohypogastric fascia by the FDG-PET and MRI. The tumor extirpation together with left hypogastric fascia + internal obturator muscle + seminal vesicle + renal urethrectomy) was performed laparoscopically.

③ 52 yo, female: Recurrent cervical cancer after total hysterectomy. laparoscopic posterior pelvic dissection.

**[Discussion]**

Preoperative insertion of the NIRC was performed. The IR-capable high-resolution rigid scope (WAIR130A) with VICELLA ELITE II was very helpful for intraoperative recognition of the ureter, especially in the scar tissue.

**[Conclusion]**

Fluorescent ureteral catheter (NIRC) enables easy identification of urinary tract during the surgery of recurrent pelvic tumor, that is not always easy in the scar tissues. It is considered to be a useful material for various pelvic surgery.

**O5-3 Neutrophil-lymphocyte ratio after neoadjuvant systemic chemotherapy is a potential predictive marker for good pathologic response in patients with advanced rectal cancer**

Streaming Room3

**Authors:** Atsushi Ogura<sup>1</sup>, Kay Uehara<sup>1</sup>, Toshisada Aiba<sup>1</sup>, Goro Nakayama<sup>2</sup>, Norifumi Hattori<sup>2</sup>, Yusuke Sato<sup>2</sup>, Yasuhiro Koderu<sup>2</sup>, Tomoki Ebata<sup>1</sup>

**Organisation:** <sup>1</sup>Division of surgical oncology, department of surgery, Nagoya University Graduate School of Medicine, Aichi, Japan; <sup>2</sup>Department of gastrointestinal surgery, Nagoya University Graduate School of Medicine

**Abstract:**

**Background**

The systemic inflammatory and immune response has been shown to predict the pathologic response in patients with locally advanced rectal cancer who underwent chemoradiotherapy. However, the association with systemic chemotherapy (SC) was not revealed. We aimed to evaluate the association between inflammatory and immune indexes and pathologic response in locally advanced rectal cancer treated with neoadjuvant SC.

**Methods**

Between 2008 and 2018, a total of 100 patients with cStage II/III rectal cancer who treated with neoadjuvant SC were included in this study. Serum neutrophils, lymphocytes, monocytes, platelets, C-reaction protein (CRP), and albumin before and after SC were analyzed and the inflammatory and immune indexes including neutrophil-lymphocyte ratio (NLR), platelet-lymphocyte ratio (PLR), lymphocyte-monocyte ratio (LMR), Lymphocyte-monocyte ratio (LNR), CRP-albumin ratio (CAR), and prognostic nutrition index (PNI) were calculated for analyses.

**Results**

Eighty-five patients completed the planned SC based on oxaliplatin and the median duration was 12 weeks. After multivariate analyses, NLR after SC was an independent predictive factor for good pathologic response (OR; 3.275, 95%CI; 1.089-9.929, P = 0.036). Fifteen patients with NLR after SC > 3.0 had no good responses. Patients with high NLR after SC also had a significantly worse 5-year overall survival of 52.3% and relapse-free survival of 48.1% compared to those in low NLR after SC group, respectively (P < 0.001, respectively).

**Conclusion**

NLR after SC was a potential predictive marker for pathologic good response in patients with locally advanced rectal cancer.

**O5-4 Prognostic factor for locally advanced rectal cancer after surgery following chemoradiotherapy**

Streaming Room3

**Authors:** Takahiro Irie, Yuki Ii, Megumi Kawaguchi, Aya Kobari, Hirotaka Momose, Ryoichi Tsukamoto, Kumpei Honjo, Kazumasa Kure, Hisashi Ro, Yu Okazawa, Rina Takahashi, Masaya Kawai, Shingo Kawano, Shinya Munakata, Kiichi Sugimoto, Makoto Takahashi, Yutaka Kojima, Yuichi Tomiki, Kazuhiro Sakamoto

**Organisation:** Department of Coloproctological Surgery, Juntendo University Faculty of Medicine, Tokyo, Japan

**Abstract:**

**Purpose:** We retrospectively investigated the prognostic factor for locally advanced rectal cancer after surgery following chemoradiotherapy (CRT).

**Methods:** The clinical and pathological data of 28 patients with locally advanced rectal cancer who underwent curative surgery following CRT were investigated. The patients received CRT (consisting of 40 - 45 Gy irradiation delivered in 25 fractions of 1.6 - 1.8 Gy [day1-day5/week for 5 weeks]), along with 5 weeks of orally taken TS-1 or Capecitabine. The recurrence-free survival (RFS) rate was calculated using the Kaplan-Meier method and univariate analyses were performed using the log-rank test.

**Results:** In univariate analysis, RFS in the patients with blood loss ( $\geq 800$ ml) was significantly worse than that in the patients with blood loss ( $< 800$ ml) ( $p=0.03$ ). Similarly, RFS in the patients with post CRT LN metastases (ypN) was significantly worse than that without post CRT LN metastases (ypN) ( $p=0.049$ ). In terms of recurrence pattern, there was a significant difference in local recurrence between the patients with and without blood loss ( $\geq 800$ ml) ( $p=0.03$ ; Hazard ratio=15.49). However, there was no significant difference in distant metastasis between the two groups ( $p=0.66$ ). There were trends toward higher cumulative incidences in both local recurrence and distant metastasis in the patients with post CRT LN metastases (ypN) (respectively,  $p=0.16, 0.21$ ).

**Conclusions:** This study demonstrated the prognostic capability of blood loss and post-CRT LN metastases (ypN) in locally advanced rectal cancer. Based on the results, we need to consider the use of adjuvant therapy in the management of locally advanced rectal cancer.

---

**O5-5 Induction of total neoadjuvant therapy for lower rectal cancer in our institute****Streaming  
Room3**

**Authors:** Yuji Toiyama, Hiroyuki Fujikawa, Akira Yamamoto, Takashi Ichikawa, Shozo Ide, Hiroki Imaoka, Tadanobu Shimura, Takahito Kitajima, Hiromi Yasuda, Yoshinaga Okugawa, Yoshiki Okita, Takeshi Yokoe, Masaki Ohi, Tsunehiko Shigemori, Yusuke Omura, Masato Kusunoki

**Organisation:** Department of Gastrointestinal and Pediatric Surgery, Mie University, Mie, Japan

**Abstract:**

We introduced total neoadjuvant therapy (TNT) for lower advanced rectal cancer to improve local and systemic control since 2018. In addition, the patients with cCR could select Watch and Wait strategy if they wish. We have two protocol for TNT. For the patients with cT4cN(0-3)cM0 or locally un-resection, we use induction chemotherapy (FOLFOX±BEV 6cycle) followed by CRT (54Gy with Capecitabine). Then, 2 cycles of Capecitabine are performed in the interval of 8 weeks. For the patients with cT2-3cN0cM0., CRT (54Gy with Capecitabine) followed by Consolidation chemotherapy (2 cycle of CAPOX) is used. The criteria of cCR are as following. First is disappeared primary tumor with whitening or telangiectasia by endoscopy. Second is no lymph node swelling by MRI, and finally, there are no hot spot in local and distant area by PET-CT. Still date, we experienced 13 patients treated with this strategy. The number of the patients with Induction chemotherapy and Consolidation chemotherapy were 5 and 7, respectively. The number of cCR, near-cCR and PR were 6,1 and 6, respectively. The patients with cCR selected Watch and Wait. Local excision of tumor for 1 patient with near-cCR was performed, and TME for 6 patients with PR. All patients have not recognized any recurrence in local and distant sites cCR and organ preservation rate is 46.1% and 53.8%, respectively.

---

---

**O5-6 Long-term oncological result of neoadjuvant concurrent chemoradiotherapy for mid-low rectal cancer follow by curative resection**

Streaming  
Room3

**Authors:** Ren Hao Chan, Jenq Chang Lee, Bo Wen Lin, Shao Chieh Lin, Po Chuan Chen, Wei Ting Lin, Chun Hsien Wu

**Organisation:** Department of Surgery, National Cheng Kung University Hospital, College of Medicine, National Cheng Kung University, Tainan, Taiwan

**Abstract:**

There were total 261 patients had rectal cancer was diagnosed since January 2004 till December 2017. Mean age was  $60.7 \pm 12.3$  year-old. 167 (64%) patients had rectal cancer below 5cm AAV. These patients had clinical T3/T4 or clinical node positive status. They received neoadjuvant concurrent chemoradiotherapy with 5-FU and long course radiotherapy. The curative operation should be done after radiotherapy 6-12 weeks. The 5-years overall survival was 80% and disease-free survival was 67%. There was only 3 (1.15%) patients had local recurrence. The poor prognostic factor for overall survival was age greater than 75-year-old. The poor prognostic factor for disease free survival were post-CCRT/pre-operative CEA level grater than 5ng/dl and post-operative yN positive status.

---

## O6-1 Patients with perianal fistula have higher levels of aggression than those with hemorrhoidal disease

Streaming Room3

**Authors:** Muzaffer Akkoca<sup>1</sup>, Serhat Tokgoz<sup>1</sup>, Sadettin Er<sup>2</sup>, Berker Duman<sup>3</sup>, Tugba Ayaz<sup>3</sup>, Hakan Kumbasar<sup>3</sup>, Derya Gökmen<sup>4</sup>, Akin Firat Kocaay<sup>5</sup>, Mehmet Ayhan Kuzu<sup>5</sup>

**Organisation:** <sup>1</sup>University of Health Sciences, Dışkapı Yıldırım Beyazıt Research and Training Hospital, Ankara, Turkey; <sup>2</sup>University of Health Sciences, Bilkent City Research and Training Hospital; <sup>3</sup>Ankara University School of Medicine, Department of Psychiatry, Division of Consultation-Liaison Psychiatry, ; <sup>4</sup>Ankara University School of Medicine, Department of Biostatistics; <sup>5</sup>Ankara University School of Medicine, Department of General Surgery

### Abstract:

**Background:** Previous studies suggest that emotional factors play a role in the pathogenesis of anal fistula. The aim of this study was to investigate the incidence of general psychiatric symptoms, aggression levels, and sexual dysfunction in patients with benign anorectal diseases and compare the results with those of healthy control subjects.

**Patients:** We prospectively enrolled consecutive adult patients who presented for treatment of benign perianal diseases and healthy control subjects between June 2017 and December 2018. All patients had either grade 3 or 4 hemorrhoidal disease with perianal symptoms or perianal fistula with active discharge (excluding pain in both groups) who had not undergone previous anorectal surgery.

**Intervention:** We used the Symptom Checklist-90-Revised Form (SCL-90-R) to evaluate general psychiatric symptoms, the Buss Perry Aggression Questionnaire (BPAQ) to evaluate aggression levels, and the Arizona Sexual Experiences Scale (ASEX) to evaluate sexual dysfunction. Scores from the three psychiatric evaluation questionnaires, patient age, gender, and education level.

**Results:** A total of 563 patients were assessed for eligibility; 94 with anal fistula, 89 with hemorrhoids and 59 healthy control subjects were enrolled. The groups were similar in regards to age, gender and educational level. Physical and verbal aggression, anger, and total BPAQ score were statistically significantly higher in the patients with perianal fistula than in those with hemorrhoidal disease and healthy control subjects ( $p < 0.001$ ).

**Conclusion:** This study suggests that patients with perianal fistula have higher levels of aggression than those with hemorrhoidal disease. One must bear in mind this during preoperative patient evaluations and concentrating process.

**O6-2 Comparison of morbidity and cost-effectiveness between ghost ileostomy and defunctioning ileostomy in low anterior resection**

Streaming  
Room3

**Authors:** Serkan Zenger<sup>1</sup>, Bulent Gurbuz<sup>1</sup>, Ugur Can<sup>1</sup>, Emre Balik<sup>2</sup>, Tunc Yalti<sup>1,2</sup>, Dursun Bugra<sup>1,2</sup>

**Organisation:** <sup>1</sup>Department of General Surgery, VKF American Hospital, Istanbul, Turkey; <sup>2</sup>Department of General Surgery, Koç University School of Medicine, Istanbul, Turkey

**Abstract:**

**Aim:** We aimed to investigate the impact of ghost ileostomy (GI) in the patients who were performed low anterior resection (LAR) for rectal cancer, and to compare GI with defunctioning ileostomy (DI) in terms of postoperative morbidity, rehospitalization rates, and total costs.

**Methods:** Patients, who underwent LAR between 2010 and 2019, were divided into two groups as GI or DI. Clinical characteristics, operative outcomes, postoperative morbidity, rehospitalization rates, and total costs were compared.

**Results:** In total, 123 patients were enrolled as follows: 42 patients in the GI group and 81 patients in the DI group. Operative time was significantly longer in the DI group ( $P=0.03$ ). There was no significant difference in terms of anastomotic leakage (AL) between two groups (GI; 7.1%, DI; 2.5%). AL was identified in 3 of 42 patients who underwent GI, and in all of them, GI was easily converted to DI. 96.3% of the patients with DI was rehospitalized at least one time because of surgery-related and/or stoma-related complications, or stoma closure. When we did not take into account the patients who were rehospitalized for stoma closure, the rates of rehospitalization were 4.7% and 22.2% in the GI and DI groups, respectively ( $P=0.01$ ). The mean total costs calculated by removing additional surgical procedures and adding all of the rehospitalization costs were 25,767 USD and 41,875 USD in the GI and DI groups, respectively ( $P=0.0001$ ).

**Conclusion:** GI is a safe and cost-effective method in patients who underwent LAR with low or medium risk factors for AL. It is possible to avoid unnecessary ileostomy and to reduce unwanted outcomes due to it, such as postoperative complications, rehospitalizations, and increased total costs by performing GI.

---

**O6-3 Problems in tropical proctology**

Streaming  
Room3

**Author:** Elroy Patrick Weledji

**Organisation:** Surgery, University of Buea, Limbe, S.W., Cameroon

**Abstract:**

Anorectal pathology is a growing problem in the developing (tropical) world. Six proctology cases that highlight the problems of diagnosis and management in a developing sub-saharan country (Cameroon) in west Africa are discussed. Proctological cases can be safe and effective therapeutic modalities. However, the problems of proctology practice in the developing world include patients' ignorance and fear of anorectal procedures rendering faecal incontinence, insufficient health education accentuating late presentation, diagnosis and management, a poor referral system, the lack of trained colorectal surgeons and pathologists. limited resources and the greater need of understanding sexually transmitted diseases such as HIV/AIDS in the practice of proctology.

---

---

**O6-4 3.5kg pelvic desmoid tumor in a 23year old male: surgical management**

Streaming  
Room3

**Authors:** Minahi Ilyas, Jayan Jayasinghe, Ahmad Taha, Annamaria Minicozzi

**Organisation:** Department of Colorectal Surgery, Barts Health NHS trust, London, U.K

**Abstract:**

**INTRODUCTION:**

Desmoid tumor are rare, locally aggressive, nonmetastasizing mesenchymal neoplasms which are locally invasive with a high recurrence rate.

**METHOD:**

Analysis of a 23 year old male with a desmoid tumor, was conducted after his 1year follow up appointment.

**PRESENTATION:**

3/2019: A clinically well gentleman presented with a palpable large hard, non tender mass extending from the suprapubic region to the umbilicus; and complained of bowel obstruction symptoms.

4/2019 CT Abdomen Pelvis&MRI pelvis: Well defined, homogenous fluid filled soft tissue mass arising from the right hemipelvis extending in the midline superiorly to just above the aortic bifurcation measuring 9 x 17 x 20cm. No other abnormality

Surgical Course: With the stoma team's assistance, a preliminary stoma site was marked

B/L JJ-Stent inserted into the kidneys prophylactically prior to the operation.

**PROCEDURE: EXPLORATORY FULL MIDLINE LAPAROTOMY + EXCISION OF LARGE INTRA-PERITONEAL TUMOR + RIGHT HEMI-COLECTOMY**

**INTRA-OP FINDINGS:** Large (3.58 Kg), Vascular, solid intra-abdominal tumor extending from the epigastrium to pelvis; with displacement of bowel loops upwards and towards right.

**FROZEN SECTION AND HISTOLOGY:**

Well-circumscribed tumour with a fairly homogeneous whorled and trabeculated cut surface.

showing interlacing fascicles of bland spindle cells with blood vessels. No cytological atypia, necrosis or mitoses was seen.

Spindle cells strongly positive for vimentin, beta catenin and Focal calretinin.

**FOLLOW UP:** 1 year CTabdopelvis: Clear

**CONCLUSION:**

Careful resection of fairly big desmoid tumors, followed by strict surveillance can result in minimal morbidity.

---

---

**O6-5 An unusual complication: Post-operative Guillain-Barre syndrome in a Crohn's patient.  
A case report**

Streaming  
Room3

**Authors:** Afroza Sharmin, Joanna Dudek, Aliaa Shamardal, Tarun Singhal

**Organisation:** Department of General and Laparoscopic Surgery, King's College Hospital NHS Foundation Trust, Orpington, Greater London, United Kingdom

**Abstract:**

**Introduction:**

Crohn's disease is a chronic inflammatory disorder with well known intestinal and extraintestinal manifestations. A rare extraintestinal complication of Crohn's disease, as reported in only 20-30% cases, is Guillain- Barre syndrome (GBS), a condition affecting the peripheral nerves. However, we report a case of GBS in a Crohn's patient after bowel surgery, whereby a strong association between the two is yet to be established.

The rarity of GBS as a complication of bowel surgery for complex Crohn's disease has prompted us to write this report.

**Case presentation:** A 35 year old male, diagnosed with Crohn's disease and on medical treatment for three years presented to the emergency with subacute bowel obstruction due to terminal ileal stricture. He underwent a two-stage surgical treatment leading to laparoscopic right hemicolectomy. He was readmitted four weeks later with vague abdominal and acute lower limb weakness that was ultimately determined to result from Guillain- Barre syndrome. Symptoms resolved with early identification, supportive treatment in intensive care unit, multi-disciplinary input and prolonged rehabilitation.

**Conclusion:** GBS after bowel surgery, leading to long-term sequelae, worsen with delays in diagnosis. Therefore, acute idiopathic polyneuropathies such as GBS should be kept as a differential diagnosis in Crohn's patients who manifest sudden neurological symptoms after bowel surgery. This is essential for the early evaluation, recognition, and treatment; thereby reducing adverse outcomes including death.

---

---

**O6-6 Microbiology pus swabs in emergency drainage of perianal abscess - are they influencing patient management?**

Streaming  
Room3

**Authors:** Adam O'Connor, Shariq Sabri, Sana Ullah

**Organisation:** Department of General surgery , Tameside General Hospital, Manchester, Salford, United Kingdom

**Abstract:**

**Aims:** The purpose of our study is to assess whether microbiology swabs taken during incision and drainage of perianal abscesses in our hospital have any impact on the post-operative clinical course. We are also assessing the demographics of perianal abscesses locally and the microbiology present.

**Methods:** Data from emergency operative theatre lists were interrogated for patients undergoing incision and drainage of perianal abscess in the period March 2019 – March 2020. Each electronic medical record for patients who had perianal abscess surgery was interrogated for age, sex, smoking status, diabetic status, whether or not microbiology swab was taken for analysis, what organism was grown and any post-op fistula development.

**Results:** 71 patients met inclusion criteria. 55 (77.5%) patients had pus swabs sent at incision and drainage for microbiological analysis. Of the 55 patients swabbed, 20 (36%) had no organism growth, 22 (40%) had anaerobes growth – the most common organism in this study. Of all 55 swabs sent, only 14 (25%) were acknowledged. The presence of smoking ( $p < 0.05$ ) was statistically significantly associated with development of fistula-in-ano longer term.

**Conclusion:** Currently, our data may indicate that microbiology swabs do not influence management of patients with acute perianal abscess. There appears to be discrepancies in whether swabs are taken and acted upon depending on individual surgeon preference. There is no apparent significant group of organisms that indicate future fistula development. We would suggest larger, national scale studies to further explore our conclusions.

---

**O7-1 Rectal adenocarcinoma with synchronous prostatic malignancy: Multidisciplinary approach and outcomes**

Streaming Room3

**Authors:** Jayan Dewantha Jayasinghe<sup>1</sup>, Mohamed Adnan Thaha<sup>1</sup>, Karen Tipples<sup>2</sup>, Annamaria Minicozzi<sup>1</sup>

**Organisation:** <sup>1</sup>Department of Colorectal surgery and Pelvic floor services, The Royal London hospital, London, United Kingdom; <sup>2</sup>Department of Uro-oncology, Barts Health NHS, London, United Kingdom

**Abstract:**

Purpose

Only few published data available on outcomes of rectal adenocarcinoma (Rec.Ca) diagnosed synchronously with prostate malignancy (Pro.Ca). This study aims to describe our institutional experience in presentation, management and outcomes of synchronous Rec.Ca & Pro.Ca among urban male population in UK.

Methods

A retrospective analysis of men diagnosed with synchronous Rec.Ca & Pro.Ca in a tertiary centre serving ethnically diverse population in the UK for 5 years between 2015-19.

Results

Out of 156 men with Rec.Ca diagnosis, 7 (4.4%) had synchronous Pro.Ca. Five presented with lower GI symptoms of altered bowels or/and bleeding per-rectum and Pro.Ca was diagnosed incidentally on pelvic-MRI(4) or lymph node metastasis(1). Remaining 2 had raised prostate specific antigen(PSA) on screening and Rec.Ca incidentally on MRI. At index presentation none had urinary symptoms, but all had elevated serum PSA. Rectal tumors were stage-I(1), stage-II(2), stage-III(3) and Stage-IV(1) at diagnosis. All 7 Pro.Ca were organ confined, non-metastatic disease with only one had isolated nodal metastasis. Five received external beam radiation to prostate and 2 of them had additional dose to rectum. All had androgen blockade and 3 had additional chemotherapy. Other 2 received long course chemoradiotherapy targeting rectum, while their Pro.Ca managed with active surveillance. During median follow up of 28 months both overall and disease free survival was 100% with no rectal, prostate or distant disease. Three of the 7 patients had symptomatic radiation proctitis during follow up.

Conclusion

Rec.Ca with synchronous diagnosis of Pro.Ca is rare, however with increased use of pelvic-MRI and pre-operative radiotherapy in Rec.Ca, diagnosis of synchronous tumours and their outcomes have improved.

---

**O7-2** Increasing colorectal cancer cases in young adults - Do mismatch repair gene mutations and ethnicity play a role?

Streaming Room3

**Authors:** Victor Kung, Sala Abdalla, Francis Ugwu, Joshua Tognarelli, Chu Yiu, Olatokunbo Oke

**Organisation:** Department of Colorectal Surgery, Lewisham & Greenwich NHS Trust, Queen Elizabeth Hospital, London, United Kingdom

**Abstract:**

**Aim**

Colorectal cancer (CRC) cases are increasing in young adults. Although mutations of mismatch repair genes (*MMR*) / Lynch syndrome have been proposed, the reason remains unknown.

Our practice frequently encountered patients aged  $\leq 55$  with CRCs. This study analysed their characteristics and tumour biology to investigate why CRCs are increasing in young adults.

**Methods**

A retrospective review was performed on all new CRC patients aged  $\leq 55$  in a UK hospital between 1999–2017. Patient demographics, disease characteristics, family history, tumour genetics (*KRAS*, *MMR* mutations), treatment and survival data were analysed.

**Results**

113 patients were identified [M:F=1.3:1. Median age=47 (range=28–55)]. 59% were Caucasians. Distribution of CRCs was as follows: caecum 8%, ascending 12%, hepatic flexure 4%, transverse 5%, splenic flexure 4%, descending 2%, sigmoid 29% and rectum 36%. 71% were moderately-differentiated tumours and 9% were mucinous/signet-ring adenocarcinoma. Majorities had Dukes' C disease (Dukes' A-15%, B-22%, C-36%, D-27%) and negative family histories (74%). R<sub>0</sub> resections were achieved in 88% of patients.

Genetic analysis revealed *MMR* and *KRAS* mutations in 17% and 44% of tumours respectively.

In non-Caucasians, CRCs were more likely of advanced Dukes' stages, with more T<sub>4</sub> tumours, N<sub>1-2</sub> status and *KRAS* mutations ( $P < 0.05$ ). However, patients' age, rates of *MMR* mutations, family history, R<sub>0</sub> resection, recurrence, and survival curves were similar to Caucasians.

**Conclusions**

Contrary to our hypothesis, *MMR* mutation rates and tumour distribution in our patients aged  $\leq 55$  were not different to older patients in the literature. However, our data suggest that non-Caucasians have more advanced disease and *KRAS* mutations at diagnosis and may benefit from earlier screening.

**O7-3 Prognostic factors predicting overall survival in patients with primary non metastatic colorectal cancer who received palliative intervention or palliative treatment**

Streaming Room3

**Authors:** Mariam Rizk, Simone Cremona, Joseph Nunoo-Mensah

**Organisation:** Colorectal Surgery Department, King's College Hospital, London, United Kingdom

**Abstract:**

Background:The life expectancy of patients who receive only non-operative palliative treatment or non-curative surgical interventions following a diagnosis of colorectal cancer is unknown.The objective of this retrospective study was to determine the mean and median life survival following the diagnosis of primary non metastatic colorectal cancer in patients who could not undergo major surgery with a curative intent because of important coexistent comorbidity or because of their refusal of the operation.

Materials and methods:We retrospectively performed an analysis using clinicopathological parameters of 78 patients with no secondary metastatic disease and no curative intervention or curative chemo/radiotherapy between 2012 and 2019. Palliative intervention includes laparoscopic defunctioning stoma,stent, polypectomy/EMR,palliative TEMS and palliative radio/chemotherapy. Prognostic factors associated with overall survival (OS) were evaluated by univariate and multivariate analyses.

Results:Median survival was 296 days while mean survival was 385 days with minimum range 15 days and maximum range 1894 days for the total number of patients (n = 78). Three parameters were associated with statistically significant OS in the univariate analysis (Logrank test).Performance status was identified with p=0.004,pT p=0.030 and regional lymph node metastasis pN with p=0.001.A multivariate analysis revealed that pN and Performance Status were prognostic factors associated with the OS: pN2 (HR: 2.19, 95% CI: -1.1-4.4, p = 0.030) and Performance Status 3,4 (HR: 0.525, 95% CI: 0.3-1.0, p = 0.026).

Conclusion:The prognosis of unresected colo-rectal cancer, though poor, might be weighted considering the performance status, T stage and N stage which affect the overall survival of these patients.

**O7-4 Non-operative management of locally advanced rectal cancer following chemoradiotherapy: A retrospective study**

Streaming Room3

**Authors:** Jayan Dewantha Jayasinghe<sup>1</sup>, Annamaria Minicozzi<sup>1</sup>, Nikolaos Diamantis<sup>2</sup>, Amen Sibtain<sup>2</sup>

**Organisation:** <sup>1</sup>Department of Colorectal surgery and Pelvic floor services, The Royal London hospital, London, United Kingdom; <sup>2</sup>Department of Oncology, Barts Health NHS, London, United Kingdom

**Abstract:**

Purpose

Preoperative chemoradiotherapy (PCRT) known to cause tumour regression and clinical complete response (CCR) in rectal cancer. These patients can be managed with organ preservation by careful surveillance in a watch and wait strategy.

Methods

A retrospective study on patients who received PCRT in MRI-staged locally advanced rectal adenocarcinoma and subsequent non-operative follow up through multidisciplinary tumour board at a tertiary care setting in UK.

Results

Total of 17 patients were followed up with watch and wait strategy based on post-CRT MRI scan and direct visualisation of the rectum by endoscopy or examination under anaesthesia. Mean age at diagnosis was 64.1 years (36 - 85 years) and 11 (64.7%) were males. Advance tumour stage (T3 or above) was seen in 09 (53%) and node positive disease in 12 (70.6%). All had tissue diagnosis of moderately differentiated adenocarcinoma and 06 (35.3%) had threatened / involved circumferential margins and 04 (23.5%) with evidence of extramural vascular invasion. Fifteen tumours (88.2%) were located in low rectum within 5 cm from anal verge. Twelve (70.6%) had long course CRT (70.6%) and 04 (23.5%) received total neo-adjuvant therapy (TNT). Median follow up was 18 months with overall survival of 100%, disease free survival of 76.5% and 02 patients had tumour re-growth during 2<sup>nd</sup> and 3<sup>rd</sup> years of follow up and 02 developed distant metastasis while on sustained CCR of the rectal primary.

Conclusion

In our series, majority of patients remains safely with sustained CCR following PCRT after diagnosis of low rectal adenocarcinoma and outcomes are comparable with published series from elsewhere. Prospective cohort study is currently underway to further assess this watch and wait strategy in our setting.

**O7-5 Characteristics and outcomes of rectal cancer in young adults: Experience from an urban population in the west**

Streaming Room3

**Authors:** Jayan Dewantha Jayasinghe<sup>1</sup>, Mohamed Adnan Thaha<sup>1,2</sup>, Annamaria Minicozzi<sup>1</sup>, Hitesh Patel<sup>3</sup>

**Organisation:** <sup>1</sup>Department of Colorectal surgery and Pelvic floor services, The Royal London hospital, London, United Kingdom; <sup>2</sup>National bowel research centre, Queen Mary University of London, United Kingdom ; <sup>3</sup>Department of surgery, Newham university hospital, London, United Kingdom

**Abstract:**

Purpose

Incidence of rectal cancer among young adults is increasing. Evidence suggests that young age rectal cancers may have a poor outcome. This study evaluated young age rectal cancer patients amongst an ethnically diverse urban population in the United Kingdom.

Methods

A retrospective study on patients diagnosed with rectal cancer at or before the age of 45 years in a tertiary care centre during a 5-year period from 2015 to 2019.

Results

Forty eight (20.5%) of a total of 234 patients with rectal adenocarcinoma were 45 years or less. Male: female ratio was 1:1 and the median age was 43 (26-45) years. Thirty-nine (81.3%) had advanced tumour stage (pT3-pT4) and 41(85.4%) had node positive disease. At index diagnosis, 12(25%) patients presented with local complications and 10(20.8%) with metastatic disease. A positive family history or underlying high-risk bowel pathology was noted in 14(29.2%) patients. Thirteen (27.1%) had poorly differentiated tumours of which 7 (14.6%) were of signet-ring subtype and 11(22.9%) had mucinous tumours. Mutations in the K-RAS gene were detected among 17(35.4%) patients. Only 35 out of 48 (72.9%) patients received treatment with curative intent. The median follow up period was 2.4 years and the overall survival rate was 70.8% with a disease free survival of 60.4%.

Conclusion

This study reports a higher incidence of rectal cancer diagnosis among young than most published data. A large proportion of this group presenting with advanced node positive disease. Further, a high-proportion of patients had poor prognostic factors representing aggressive tumour biology and adverse treatment outcomes.

---

**O7-6 Factors affecting quality of histological specimens in laparoscopic anterior resections – a retrospective cohort study**

Streaming Room3

**Authors:** Adam O'Connor, Peter Asaad

**Organisation:** Department of General surgery , Tameside General Hospital, Salford, United Kingdom

**Abstract:**

Background:

Laparoscopic resections for colorectal cancer are common. A high quality specimen is determined by an R0 resection and adequate lymph nodes. We aimed to explore the factors that could potentiate obtaining a poor quality specimen during laparoscopic colorectal cancer surgery.

Methods:

We performed a retrospective cohort study over one year. Patients undergoing laparoscopic colorectal anterior resection by one consultant surgeon were included. Data was extracted from online notes. Gender, tumour, R0/R1, lymph nodes resected, distance from anal verge and pTNM were recorded.

Results:

30 patients were included. R0 resection rate was 93% and the median number of lymph nodes was 13 (range 2 – 28). On analysing the two R1 resections, they were low anterior resections of T3 tumours with the mean distance from the anal verge 7.6cm. Mean distance from the anal verge for all other anterior resections was 13.7 (range 6.1-35cm). Both R1 resections were male. The tumour mean size for all anterior resections was 3.62, while that of the R1 tumours was 2.45cm. Only 1 patient who had an anterior resection had less than 5 lymph nodes isolated. The distance of this tumour from the anal verge was 8cm, and the size of the tumour was 0.3cm. The patient was male. 33% of patients who had an anterior resection had less than 10 lymph nodes isolated. Their mean distance from the anal verge was 14.7cm and mean size of the tumour was 3.22cm. 78% were male.

Discussion:

Smaller tumour size, shorter distance to the anal verge and male gender appear to increase the risk of obtaining a poor quality specimen.

Conclusion:

The results appear to show factors affecting specimen quality following laparoscopic colorectal cancer resection are: gender, distance from the anal verge and tumour size.

---

**O8-1 The use of CCI® to assess the effectiveness of ERAS in the surgical treatment of patients with obstructive colon cancer**

Streaming Room 2

**Authors:** Nikolay Aleksandrovich Sizonenko<sup>1,2</sup>, Dmitry Aleksandrovich Surov<sup>1</sup>, Ivan Anatolievich Soloviev<sup>1</sup>, Andrey Evgenievich Demko<sup>3</sup>, Aleksandr Igorevich Yakimovich<sup>1</sup>, Petr Petrovich Lukianiuk<sup>1</sup>, Andrey Vladimirovich Sviatnenko<sup>1,4</sup>, Aleksey Vladimirovich Osipov<sup>1,4</sup>

**Organisation:** <sup>1</sup>Department of Navy Surgery, S.M.Kirov Military Medical Academy, Saint Petersburg, Russia; <sup>2</sup>Department of Emergency Medical Care and Telemedicine (Baltic Telemedicine Center), I.I.Dzhanelidze research institute of emergency medicine, Saint Petersburg, Russia; <sup>3</sup>Administration, I.I.Dzhanelidze research institute of emergency medicine, Saint Petersburg, Russia; <sup>4</sup>Department of Emergency Surgery, I.I.Dzhanelidze research institute of emergency medicine, Saint Petersburg, Russia

**Abstract:**

**Introduction.** The effectiveness of ERAS in emergency surgery is much debated. The aim of the study was to conduct a comparative analysis of the immediate results of the introduction of ERAS in the surgical treatment of patients with obstructive colon cancer using the comprehensive complication index – CCI® (The CCI® is a register trademark and is owned by the University of Zurich).

**Material and methods.** A randomized clinical trial (2016-2019) involved 107 patients (mean age  $71.3 \pm 11.5$ ) included in the comparable ERAS group (n = 54) and the control group (n = 53). In addition to the well-known components of the ERAS-program, during the surgery was performed decompression of the colon and small intestine (by indications), small intestine lavage, embryology oriented surgery and D3-lymphadenectomy, rectus sheath or wound infusion catheterization (local anesthesia of the wound).

Comparative analysis was required to study postoperative complications using the classification of Clavien-Dindo (2004) and CCI® (2013).

**Results.** ERAS group: in 10 (18.5%) patients was 21 complications were registered (by classification Clavien-Dindo I-IIIa - 9, IIIb-IV - 12). According to the CCI® the total index of complications was 530.2.

Control group: in 16 (30.2%) patients was 45 postoperative complications were registered (by classification Clavien-Dindo I-IIIa - 17, IIIb-IV - 28). According to the CCI® the total index of complications was 981.2.

**Conclusions.** The application of the ERAS is safe and can improve the immediate results of surgical treatment of patients with obstructive colon cancer, which is confirmed by the analysis of postoperative complications in comparison groups not only on the basis of the Clavien-Dindo classification, but also using a more sensitive CCI®.

**O8-2 Laparoscopic ovarian transposition before pelvic irradiation in rectal cancer, experience from single center in Saudi Arabia**

Streaming Room 2

**Authors:** Jaffar Mohammed Alshahri<sup>1</sup>, Maryam Aleissa<sup>2</sup>, Hadi Almohsen<sup>1</sup>, Nasser Alsanea<sup>1</sup>, Luai Ashari<sup>1</sup>, Samar Alhomoud<sup>1</sup>, Alaa Salah Abduljabbar<sup>1</sup>

**Organisation:** <sup>1</sup>Department of Surgery , King Faisal Specialist Hospital and Research Center, Riyadh , Saudi Arabia ; <sup>2</sup>Princess Noura Bin Abdulrahman University, Riyadh, Saudi Arabia

**Abstract:**

**Background:** Preserving ovarian function and fertility in young cancer patients of childbearing age is a concern for both the patient and the clinician. Our study aim is to evaluate the effectiveness of ovarian transposition procedure in preserving ovarian function among female below 45 years of age diagnosed with rectal cancer, whom underwent neoadjuvant radiotherapy.

**Methods:** A retrospective study was conducted in which a review of all the cases of laparoscopic ovarian transposition surgery that were done at King Faisal Specialist Hospital and Research Center between (January 2004 to August 2019). Our target population was female below 45 years old diagnosed with rectal cancer. The data was collected by investigators who reviewed patient's charts to extract types and site of cancer (rectal, non-rectal), and patient hormonal level, menstrual cycle regularity, and ability to conceive after the course of treatment. The primary investigator reviewed any discrepancy and missing data.

**Results:** The total numbers of reviewed patients were ten. The mean age was 38 years old, our patients had regular menses prior to their diagnosis with no evidence of ovarian involvement. Six cases (66.7%) had resumed their menses after receiving the treatment course. None of our patient had conceived after completion of their treatment course.

**Conclusion:** Our data showed that Laparoscopic ovarian transposition is associated with preservation of ovarian function in majority of our studied patients. Laparoscopic ovarian transposition before pelvic irradiation in advance rectal cancer treatment is an effective and feasible way to preserve ovarian function in young female patients at a risk of radiotherapy-induced ovarian failure.

**O8-3 Is the prognosis different in mid-transverse colon cancers compared with other colon cancer locations?**

Streaming  
Room 2

**Authors:** Serkan Zenger<sup>1</sup>, Bulent Gurbuz<sup>1</sup>, Emre Balik<sup>2</sup>, Dursun Bugra<sup>1,2</sup>

**Organisation:** <sup>1</sup>Department of General Surgery, VKF American Hospital, Istanbul, Turkey; <sup>2</sup>Department of General Surgery, Koç University School of Medicine, Istanbul, Turkey

**Abstract:**

**Aim** The aim of this study was to compare the clinicopathologic characteristics and long-term outcomes between mid-transverse colon cancers (mid-TCC) with right colon cancers (RCC) and left colon cancers (LCC), and to determine the prognostic impact of primary tumor location in mid-transverse colon.

**Methods** We retrospectively analyzed the patients who underwent curative surgery for colon cancer between 2010 and 2017. The patients' data with mid-TCC (flexures excluded) were compared with RCC and LCC separately in terms of their demographic characteristics, operative outcomes, pathologic results, and survival.

**Results** A total of 302 patients were included, of whom 7.6% (n=23) was mid-TCC, 39.4% (n=119) was RCC, and 53% (n=160) was LCC. The mean length of hospital stay and length of specimen were significantly longer, and the mean number of harvested lymph nodes was significantly higher in mid-TCC group. There was no significant differences between the groups in terms of other clinicopathologic characteristics. The 5-year overall survival (OS) and disease-free survival (DFS) were significantly worse in mid-TCC group than RCC and LCC groups (OS; 57.1% vs 81.3% vs 87.6%, p=0.006, and DFS; 50.5% vs 72.2% vs 80%, P=0.02, respectively). After adjustment for other clinicopathologic factors, mid-TCC was significantly associated with poor prognosis (HR, 3.21; 95%CI, 1.57-6.54, P=0.001).

**Conclusion** Mid-TCC had poorer prognosis than other colon cancer locations in our case series. Tumor location in mid-transverse colon may be a poor prognostic factor. The effect of tumor location in mid-transverse colon on prognosis should be investigated further in prospective studies, including molecular and genetic markers.

**O8-4 Is splenectomy a prognostic factor for cytoreductive surgery (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC) in patients with peritoneal metastasis (PM) ?**

Streaming  
Room 2

**Authors:** Tayfun Bisgin<sup>1</sup>, Selman Sokmen<sup>1</sup>, Emre Aras Canda<sup>1</sup>, Vildan Avkan Oguz<sup>2</sup>, Funda Obuz<sup>5</sup>, Aziz Karaoglu<sup>4</sup>, Ozgul Sagol<sup>3</sup>, Hulya Ellidokuz<sup>6</sup>

**Organisation:** <sup>1</sup>Department of General Surgery, Dokuz Eylul University, Izmir, Turkey; <sup>2</sup>Department of Infectious Diseases and Clinical Microbiology, Dokuz Eylul University, Izmir, Turkey; <sup>3</sup>Department of Pathology, Dokuz Eylul University, Izmir, Turkey; <sup>4</sup>Department of Medical Oncology, Dokuz Eylul University, Izmir, Turkey; <sup>5</sup>Department of Radiology, Dokuz Eylul University, Izmir, Turkey; <sup>6</sup>Department of Biostatistics and Medical Informatics, Dokuz Eylul University, Izmir, Turkey

**Abstract:**

**Aim:** We aimed to determine the prognostic role of splenectomy on postoperative complications and final oncological results of CRS&HIPEC treatment in patients with PM.

**Methods:** Prospectively recorded archival data of 661 patients with peritoneal metastasis (PM) who underwent CRS&HIPEC at our Peritoneal Surface Malignancy Center between 2007 and 2020 were analyzed. Splenectomy was performed in 90 (13.6%) patients. In addition to all clinicopathological variables, such as peritoneal cancer index (PCI), completeness of cytoreduction (CC-0,CC-1 and -2), (neo)adjuvant chemotherapy, operative time, need for surgical intensive care unit, use of albumin, erythrocyte suspension, and fresh frozen plasma were all evaluated.

**Results:** The median age (54.57 +/-17.92 years vs. 55.10 +/-12.82 years; p= .305) and sex distribution (female; 67.8% vs. 74.8%; p= .160) were similar in both groups. Median follow-up period was 35.26 months. The 3- and 5-years survival rates were significantly lower in splenectomy group (41.1% and 24.6% vs. 49.9% and 33.2%; p=.038). High PCI score (p<.001), more CC-1 or CC-2 cytoreduction (p<.001),the number of resected organs(≥ 5 organs) (p<.001), the prolonged operative time (p<.001),increase morbidity (p=.008), the presence of ostomy (p<.001), and development of infection (p=.002) were found in splenectomy group. High PCI score (p=.001) and the number of resected organs (p=.000) were independent prognostic factors in Cox regression analysis.

**Conclusion:** Splenectomy was associated with increased postoperative complications and decreased overall survival in patients with peritoneal metastasis who underwent CRS&HIPEC procedure.

**O8-5 Extreme cytoreductive surgery (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC) in treatment of peritoneal metastasis (PM)**

Streaming  
Room 2

**Authors:** Tayfun Bisgin<sup>1</sup>, Selman Sokmen<sup>1</sup>, Emre Aras Canda<sup>1</sup>, Canan Altay<sup>2</sup>, Mehtat Unlu<sup>3</sup>, Zumre Alican Aricikus<sup>4</sup>, Hulya Ellidokuz<sup>5</sup>, Tugba Yavuzsen<sup>6</sup>, Ozhan Ozdogan<sup>7</sup>

**Organisation:** <sup>1</sup>Department of General Surgery, Dokuz Eylul University, Izmir, Turkey; <sup>2</sup>Department of Radiology, Dokuz Eylul University, Izmir, Turkey; <sup>3</sup>Department of Pathology, Dokuz Eylul University, Izmir, Turkey; <sup>4</sup>Department of Radiation Oncology, Dokuz Eylul University, Izmir, Turkey; <sup>5</sup>Department of Biostatistics and Medical Informatics, Dokuz Eylul University, Izmir, Turkey; <sup>6</sup>Department of Medical Oncology, Dokuz Eylul University, Izmir, Turkey; <sup>7</sup>Department of Nuclear Medicine, Dokuz Eylul University, Izmir, Turkey

**Abstract:**

**Aim:** We aimed to define the oncologic concept of "extremeness" in CRS&HIPEC and to determine its association with the complication and final oncologic outcomes.

**Methods:** Prospectively recorded archival data of 666 patients with PM who underwent CRS&HIPEC between 2007 and 2020 were analyzed. Patients had peritoneal metastasis from various types of malignnat tumors. The patients were grouped into two as extreme (n=371) and non-extreme (n=295). The extreme CRS was defined as *resection of ≥5 major organs or creation of ≥2 bowel anastomoses or peritoneal carcinomatosis index (PCI) ≥15 or repetitive cytoreductive surgery (re-CRS)*.

**Results:** Primary tumors were ovarian in 280(42%), colorectal in 214(32.1%), appendicular in 74 (11.1%), malign peritoneal mesothelioma in 37(5.6%), gastric in 26(3.9%) and unconventional indication in 19(2.9%) patients. More CC-1 or CC-2 cytoreduction (p=.000), increased mortality and morbidity (p<.001), the long operative time (p<.001), more intraoperative erythrocyte ssuspension (p=.000), albumin (p=.000), fresh frozen plasma (FFP) (p=.000), and more post-operative erythrocyte ssuspension (p=.000) usage were found in the extreme CRS&HIPEC group. The prolonged operative time, CC-1 or CC-2 cytoreduction status, the presence of ostomy, development of infection, increase use of intra-operative albumin, and FFP were estimated to be an independent prognostic factors in Cox regression analysis. The 3- and 5-years survival rates were significantly lower in the extreme CRS&HIPEC group (48.8% and 31.9% vs. 61% and 44.5%; p<.001).

**Conclusion:** The presence of each domains of extreme CRS resulted in suboptimal radical complete cytoreduction. Extreme cytoreduction worsened overall survival as an independent prognostic factor.

## O9-1 The risk factors of postoperative outcomes for elderly colorectal cancer patients

Streaming  
Room3

**Authors:** Yuriko Matsumiya, Shinichi Yamauchi, Hirotaka Yonezawa, Sono Ito, Masayoshi Sakano, Takashi Shigeno, Kei Nakajima, Ryuta Kakuta, Sodai Arai, Masako Mizoguchi, Akitoshi Nankaku, Yudai Yamamoto, Taiki Masuda, Akifumi Kikuchi, Takatoshi Matsuyama, Masanori Tokunaga, Yusuke Kinugasa

**Organisation:** Department of Gastrointestinal Surgery, Tokyo Medical and Dental University, Tokyo, Japan

### Abstract:

[Background] As Japan's population ages, opportunities to perform surgeries for elderly patients are increasing. The purpose of this study was to evaluate the risk factors of postoperative short-term outcomes in elderly colorectal cancer (CRC) patients. [Methods] The subjects were patients aged 75 years or older who underwent primary tumor resection for CRC between April 2014 and February 2020. We identified the risk factors for postoperative short-term outcomes, using multivariable logistic regression models adjusting for clinical and surgical factors, including age, sex, ASA, Charlson comorbidity index (CCI), prognostic nutritional index (PNI), tumor location, tumor stage, operative time and peri- or post-operative complications. [Results] Of 276 patients who underwent primary CRC resection, median age was 79 [75-93] years old, Male/ Female; 153/ 123, Colon/ Rectum; 201/ 75, cStage I/ II/ III/ IV; 66/ 97/ 86/ 27, ASA 1/ 2/ 3; 40/ 197/ 39, CCI Low/ Med/ High/ Very High 112/ 131/ 30/ 3, median PNI was 45.5 [26.2-58.4], Open/ Lap; 76/200. Within 30 days of surgery, 37 patients (13.4%) had postoperative complications with Clavien-Dindo Grade 3 or over, and mortality rate was 0.7% (2 patients). In multivariable analysis, Stage IV (OR 4.09, 95%CI 1.58-10.6; p=0.0038), Cerebrovascular accident (CVA) as preoperative morbidity (OR 4.96, 95%CI 1.70-14.5; p=0.0034) and perioperative transfusion (OR 7.54, 95%CI 1.89-30.2; p=0.0043) were identified as the risk factors of postoperative complication. [Conclusion] The risk factors for postoperative short-term outcomes in elderly colorectal cancer patients cannot be determined by increasing age alone, but by tumor stage, history of CVA, and perioperative transfusion.

**O9-2 Evaluation of bowel blood flow by ICG fluorescence contrast in laparoscopic sphincter-sparing surgery for rectal cancer**

Streaming Room3

**Authors:** Naoto Fujimoto<sup>1</sup>, Tsukasa Tanida<sup>2</sup>, Shingo Noura<sup>1</sup>, Hiroshi Takeyama<sup>1</sup>, Yozo Suzuki<sup>1</sup>, Kazuki Odagiri<sup>1</sup>, Yoshitomo Yanagimoto<sup>1</sup>, Kozo Noguchi<sup>1</sup>, Junzo Shimizu<sup>1</sup>, Tomono Kawase<sup>1</sup>, Hiroshi Imamura<sup>1</sup>, Naohiro Tomita<sup>1</sup>, Keizo Dono<sup>1</sup>

**Organisation:** <sup>1</sup>Department of surgery, Toyonaka municipal hospital, Osaka, Japan; <sup>2</sup>Department of gastrointestinal surgery, Higashiosaka city medical center

**Abstract:**

**Purpose:** We retrospectively investigated the utility of ICG fluorescence angiography in the prevention of AL by assessing bowel blood flow. **Patients and Methods:** 31 patients who underwent sphincter-sparing surgery for rectal cancer between December 2017 and May 2019 at our department were included in this study. First, we procedure the mesenteric excision at the expected dissection line of the oral bowel and confirm the macroscopic demarcation line. Then ICG 12.5 mg was administered intravenously and the demarcation line was observed by fluorescence using a 1588 AIM system (Stryker Japan). We evaluated the time to contrast, the presence of additional resection, and the incidence of postoperative AL. **Results:** Patients background was age: 69.0±10.0 years, gender: male/female=17/14, BMI: 22.3±4.4, primary site: Ra/Rb=21/10, clinical stage: 0/I/II/III/IV=1/12/7/9/2, operative procedure: LAR/sLAR/ISR=24/5/2, lateral lymph node dissection: +/-=9/22, diverting ileostomy: +/-=12/19, operative time: 411±118 min, blood loss: 55±138 mL. The time to contrast was 25±7.9 seconds, and additional resection was required in four cases (12.9%), with an additional resection distance of 3.0±3.3 cm. No AL was observed in the cases with additional resection. AL was observed in only one case (3.2%), and the time to contrast was 25 seconds with no contrast failure. **Conclusion:** Compared to the general incidence of AL, the incidence of AL in this study was 3.2%, which was a low rate. These results suggest that anastomosis can be performed by the bowel with better tissue perfusion and that the risk of AL can be reduced by evaluating blood flow using ICG-based fluorescence angiography.

---

**O9-3 Usefulness of colorectal stenting for bridge to surgery for obstructive colorectal cancer**

Streaming  
Room3

**Authors:** Takumi Hikawa, Masahiro Yamane, Ayaka Itou, Yutaka Hattori, Sachiyo Kawamura, Fumi Shigehara, Junpei Takashima, Kenji Yamazaki, Fumihiko Miura, Keizo Taniguchi, Hirotoishi Kobayashi

**Organisation:** Department of surgery, Teikyo University School of medicine University Hospital, Mizonokuchi, Kanagawa, Japan

**Abstract:**

**[Background]**Obstruction and perforation of colorectal cancer are conditions of oncologic emergency, and it has been reported that emergency surgery for colorectal cancer is associated with a poor prognosis, regardless of the stage, compared to elective surgery cases. **[Objective]**To compare the usefulness of colorectal stenting for bridge to surgery (group S) and transanal ileus tube for decompression (group L) in patients with bowel obstruction caused by colorectal cancer. **[Method]**There were 83 patients who had undergone surgery for obstructive colorectal cancer between 2012 and 2019. Eligible patients had undergone decompression procedures (n=20); 9 cases in group S, 8 cases in group L, and 3 cases with temporary colostomy. We compared the success rate of decompression procedures, the nutritional status and the inflammatory reaction before and after decompression, and the short-term outcomes including operative time, amount of hemorrhage, postoperative complications, and days to discharge after surgery. **[Results]**There were no significant differences in the nutritional status and inflammatory reaction before and after decompression, operating time, amount of hemorrhage, and days to discharge after surgery, the success rate of decompression procedure. All in group S resume oral intake before surgery. Postoperative complications were 0 in group S and 5 in group L (p<0.05). **[Discussion]** Compared with the ileus tube, colorectal stenting was more effective in decompression, and enable patients to resume oral intake before surgery. These may have contributed to the reduction in the incidence of postoperative adverse events. **[Conclusion]**Colorectal stenting for bridge to surgery may be associated with fewer postoperative complications than transanal ileus tube insertion.

---

**O9-4 Incisional hernia on the midline umbilical incision after laparoscopic colorectal cancer resection: an ad-hoc study of a prospective randomized clinical trial**

Streaming Room3

**Authors:** Jesse Yu Tajima<sup>1</sup>, Ryota Nakanishi<sup>1,2</sup>, Atsushi Ikeda<sup>1</sup>, Kentaro Hokonohara<sup>1,2</sup>, Toshiki Mukai<sup>1</sup>, Yukiharu Hiyoshi<sup>1</sup>, Toshiya Nagasaki<sup>1</sup>, Tomohiro Yamaguchi<sup>1</sup>, Takashi Akiyoshi<sup>1</sup>, Satoshi Nagayama<sup>1</sup>, Yosuke Fukunaga<sup>1</sup>, Tsuyoshi Konishi<sup>1</sup>

**Organisation:** <sup>1</sup>Department of Gastroenterological Surgery, Cancer Institute Hospital, Tokyo, Japan; <sup>2</sup>Department of Surgery and Science, Graduate School of Medical Sciences, Kyushu University, Fukuoka, Japan

**Abstract:**

**Background:** Midline umbilical incision is commonly used as the specimen extraction site in laparoscopic colorectal surgery. However, reported rates and risk factors of incisional hernia are variable. This study aimed to clarify the incidence and risk factors of midline incisional hernia after laparoscopic colorectal cancer resection. **Methods:** This was an ad-hoc study of a randomized controlled trial that evaluated oral and intravenous versus intravenous antibiotic prophylaxis in laparoscopic colorectal cancer resection at a comprehensive cancer center during 2013-2014. Patients who had umbilical incisions in the trial were eligible for this study. Presence of incisional hernia with and without symptoms was retrospectively investigated using medical records and computed tomography images performed within 2-year postoperatively. Risk factors of incisional hernia were investigated by multivariate analysis.

**Results:** Among a total of 515 patients enrolled in the trial, 485 were eligible for the study. Surgical procedures included 287 colon resections, 173 anterior resections and 25 abdominoperineal resections. Median length of midline incision was 40mm (IQR 35-45). Incisional hernia was identified in 37 patients (7.6 %). Surgical site infection and other postoperative complications were not associated with the incisional hernia. In multivariate analysis, diabetes mellitus (DM) (OR 2.6; 95% CI 1.2-5.6, p = 0.047) and length of midline incision  $\geq 50$  mm (OR 2.2; 95% CI 1.1-4.4, p = 0.036) were independently associated with higher incidence of incisional hernia.

**Conclusions:** Although incisional hernia is relatively uncommon after laparoscopic colorectal cancer resection, patients with DM and the incision  $\geq 50$  mm had a higher risk and might need additional preventive measures.

---

**O10-1 Intracorporeal overlap anastomosis after laparoscopic colectomy viewed from the time required for anastomosis**

Streaming  
Room3

**Authors:** Heita Ozawa, Hiroki Nakanishi, Junichi Sakamoto, Shin Fujita

**Organisation:** Department of Surgery, Tochigi Cancer Center, Tochigi, Japan

**Abstract:**

[Introduction] While extracorporeal functional end-to-end anastomosis is the most frequently used anastomotic technique after laparoscopic colectomy, there has some risks of bleeding when the looped intestine is forcefully pulled to outside of the body. To avoid the bleeding, intracorporeal overlap anastomosis (IOA) has been underwent in our institute since October 2018. The aim of this study was to clarify the time required for IOA. [Method] IOA was performed on 51 colon cancer patients during the period from October 2018 to May 2020 in our institute, and of 51 patients who underwent IOA anastomosis, 33 patients operated by 4 surgeons were included in this analysis. After intracorporeal right hemicolectomy, side-to-side anastomosis was performed by inserting a laparoscopic stapler into the antegrade lined intestinal tracts. After then, insertion hole was closed by using hand sown suture. We defined the operative time from the time the mesentery was dissected until the end of the hand-sewn suture to the insertion hole. [Results] Operative time required for anastomosis of 16 cases in the first half and 17 cases in the second half were mean  $78.3 \pm 18.1$  minutes and  $55.5 \pm 15.3$  minutes, respectively ( $p=0.0005$ ). All surgeons were able to reduce the time required for IOA in half by experiencing 4-7 cases of surgery. There were no cases of unexpected heavy bleeding during surgery or SSI after surgery. [Conclusions] IOA is an effective surgical technique to prevent bleeding when lifting the intestinal tract outside the body in laparoscopic colectomy. By standardizing the procedure and improving the suturing technique, the IOA operation time can be shortened.

---

---

**O10-2 Laparoscopic surgery for advanced transverse colon cancer  
-D3 lymph node dissection with medial approach-**

Streaming  
Room3

**Authors:** Kenta Nakahara, Fumio Ishida, Mihoko Nakagawa, Kensuke Kakisako, Jyun-Ich Seki, Yojiro Takano, Akiko Tonouchi, Shoji Shimada, Yusuke Takehara, Syumpei Mukai, Yuta Enami, Naruhiko Sawada, Shin-Ei Kudo

**Organisation:** Digestive Disease Center, Showa University Northern Yokohama Hospital, Kanagawa, Japan

**Abstract:**

Laparoscopic colectomy with lymph node dissection of the root of middle colon artery (MCA) for advanced transverse colon cancer has not been standardized. In our department, CME and CVL have been performed by the medial approach. The advantages of this procedure are: (1) It can be performed with the same concept as surgery for other parts of colorectal cancer, so it is easy to standardize and easy to introduce even for beginners. (2) It can be dissected with a stable layer on the dorsal side of the mesocolon. It can be identified the vessel running in the mesocolon. (3) Since the omentum is divided after detachment from the mesocolon, it becomes easy to dissect the omentum in the deep abdominal cavity such as the liver and splenic flexure. 3560 cases of colorectal cancer surgery have been operated in our department for the past 18 years, 137 cases underwent laparoscopic surgery with D3 lymph node dissection were examined. Median operation time: 218 minutes (98-650), median bleeding volume: 61 ml (0-75), conversion to laparotomy: 3 (bleeding 1 case, severe adhesion 1 case, oncological factor 1 case), Complication rate ( $\geq$ Clavien-Dindo Grade III): 4.2%, postoperative stay: 11.8 days (4-68). Recurrence rate of patients who were able to undergo radical resection ; Stage II/III: 12.6%/26.1%(median observation period 47 months). First recurrence ; liver/lung/peritoneum/distant lymph node: 6/3/3/1. Two of the cases diagnosed as peritoneal recurrence were detected on the left side of the MCA. The surgical results and recurrence rate were considered to be no significant difference as location. A video of the surgical procedure for laparoscopic right hemicolectomy performed in our department will be presented.

---

## O10-3 Early- and long-term laparoscopic surgical outcomes for transverse colon cancer

Streaming  
Room3

**Authors:** Kazuki Ueda, Koji Daito, Hokuto Ushijima, Yoshinori Yane, Masayoshi Iwamoto, Yasumasa Yoshioka, Toshiaki Wada, Yusuke Makutani, Tadao Tokoro, Junichiro Kawamura

**Organisation:** Department of Surgery, Kindai University Faculty of Medicine, Osaka, Japan

**Abstract:**

**Aim** This study aimed to compare surgical and oncological outcomes between right- and left-sided transverse colon cancer (TCC).

**Methods** We retrospectively analyzed the data of patients with TCC cases at our institution between Jan 2005 and Dec 2017. Seventy-nine patients (8.4%) were enrolled in this study, including 49 patients undergoing laparoscopic (extended-) right hemicolectomy (RHC), and 30 patients undergoing laparoscopic left hemicolectomy (LHC). The patients who underwent laparoscopic transverse colectomy excluded from this study.

**Results** There were no significant differences in OR time, estimated blood loss, conversion rate, and postoperative course between the two groups. However, the number of harvested lymph nodes was higher in the RHC group (mean 33 vs. 18,  $p < .0001$ ), and postoperative hospital stay was longer in the LHC group (mean 9.4 vs. 10.5,  $p = 0.0362$ ). The operative complications (Clavien-Dindo classification  $\geq$  Grade 2) developed in 10 of 79 patients (12.7%). It was notable that the other organ injury was higher in the LHC group, including splenic injury in 2 cases and pancreatic injury in 1 case. The median follow-up period was 50 months. Among Stage II and III cases, the overall survival rates and the cancer-specific survival rates were not significant between the two groups. The recurrence identified 5 cases (1 case in the RHC group and 4 cases in the LHC group). Remarkably, the peritoneal dissemination identified 3 cases in the LHC group.

**Conclusions** The laparoscopic surgery for TCC was feasible and acceptable. However, advanced surgical skills will be required. Especially in the LHC cases, it is necessary to pay attention to the other organ injury and peritoneal dissemination during surgery.

**O10-4 Feasibility and efficacy of high ligation of the inferior mesenteric artery for cancer of the descending colon under indocyanine green fluorescence imaging**

Streaming Room3

**Authors:** Taro Munechika<sup>1</sup>, Ryuji Kajitani<sup>1</sup>, Ryo Oono<sup>1</sup>, Takaomi Hayashi<sup>1</sup>, Takahide Sasaki<sup>1</sup>, Yoshiko Matsumoto<sup>1</sup>, Hideki Nagano<sup>1</sup>, Akira Komono<sup>1</sup>, Naoya Aisu<sup>1</sup>, Gumpei Yoshimatsu<sup>2</sup>, Yoichiro Yoshida<sup>1</sup>, Suguru Hasegawa<sup>1</sup>

**Organisation:** <sup>1</sup>Department of Gastroenterological Surgery, Faculty of Medicine, Fukuoka University, Fukuoka, Japan; <sup>2</sup>Department of Regenerative and Transplant Medicine, Faculty of Medicine, Fukuoka University

**Abstract:**

**Background**

Complete mesocolic excision and central vascular ligation is a standard advanced technique to achieve long-term oncologic results for colon cancer surgery. There are many clinical evidences demonstrating the safety of high ligation of IMA for sigmoid colon cancer, but scarce for descending colon cancer. The main concern is the blood supply for the remnant distal sigmoid colon, especially for long sigmoid cases. We sought to clarify the feasibility and efficacy of the IMA high ligation for the descending colon cancer surgery using ICG fluorescence imaging.

**Methods**

This was a prospective single-institution study of 20 patients with descending colon cancers who underwent laparoscopic colectomy. Following full mobilization and division of the proximal colonic mesentery, we temporarily clamped the root of the IMA and performed ICG fluorescence imaging of the blood flow to the sigmoid colon. The postoperative anastomosis-related complications and length of viable remnant colon, and the number of lymph nodes retrieved were evaluated and compared with historical controls who underwent conventional IMA-preserving surgery.

**Results**

Blood flow reached 40 (17–66) cm retrograde from the peritoneal reflection, even after IMA clamping. There was no anastomotic leakage or stenosis. Retrieved total lymph nodes were higher in number in the ICG-guided group than in the conventional group (P=0.035). Specifically, more principal nodes were retrieved in the ICG-guided group, compared with the conventional group (P=0.023). The distal margin was not as long compared with the conventional group.

**Conclusion**

Our results demonstrated the feasibility and efficacy of high ligation of the IMA for descending colon cancer without sacrificing additional distal colon.

## O10-5 The utility of CT derived markers of visceral obesity in predicting operative difficulty and outcomes in laparoscopic right hemicolectomy

Streaming Room3

**Authors:** David Proud<sup>1,2</sup>, Gary Alan Bass<sup>2</sup>, Sheng Oon<sup>3</sup>, Satish Warriar<sup>4</sup>, Ronan O'Connell<sup>2</sup>

**Organisation:** <sup>1</sup>Colorectal Surgery Unit, Austin Health, Melbourne, VIC, Australia; <sup>2</sup>Department of Colorectal Surgery, St Vincent's University Hospital, Dublin, Ireland; <sup>3</sup>Department of Radiology, St Vincent's University Hospital, Dublin, Ireland; <sup>4</sup>Colorectal Surgery Unit, Alfred Hospital, Melbourne, Australia

### Abstract:

#### OBJECTIVES

We aimed to determine the utility of measurements of body compartment adiposity derived from staging CT scans to predict technical difficulty and post-operative outcomes in patients undergoing laparoscopic right hemicolectomy.

#### MATERIALS AND METHODS

Consecutive patients undergoing laparoscopic right hemicolectomy were included. Point-to-point distances and volumetric measurements of adiposity were calculated from staging abdominal CT scans. Surgeons completed the NASA Task Load Index (TLX) form to record technical difficulty.

#### RESULTS

Thirty-eight patients were recruited with a female preponderance (60.5%). Median body mass index (BMI) was 26.4kg/m<sup>2</sup>(18.7-30). Median visceral fat area (VFA) was 67.7cm<sup>2</sup> (38.3-107). Mean VFA was significantly lower in females (50.01±22.76 vs 149.02±60.91; p < 0.001). Median subcutaneous adipose area was 26.4cm<sup>2</sup> (18.7-30). Median sagittal abdominal diameter was 23.3cm(16.5-22.6cm) and was lower in females (21.82±3.19 vs 25.85±3.19; p = 0.003). Median sagittal internal diameter was 19.5cm(16.5-22.6) and was significantly lower in females (17.69±2.87 vs 22.42±2.82; p < 0.001).

Median TLX score was significantly greater in males (45.3, 34.3-53.7) versus females (38.0, 19.8-46.5),(p=0.026). TLX score increased with increasing sagittal internal diameter (p=0.024) and increased abdominal circumference (p=0.025). There was no correlation between BMI and TLX score.

#### CONCLUSION

Increasing rates of obesity make individual risk stratification and patient counseling important. Measurements of biometric data from axial imaging show promise in delivering this information. This study demonstrates the potential impact of visceral obesity in increasing the technical difficulty of colorectal surgery and suggests it is a better discriminator than BMI.

**O10-6 Colonic stent for obstructive colorectal cancer: Preoperative nutritional management and postoperative complications**

Streaming Room3

**Authors:** Yoshihisa Saida, Toshiyuki Enomoto, Sayaka Nagao, Nanako Kakizaki, Yoko Hashimoto, Utsuke Akimoto

**Organisation:** Department of Surgery, Toho University Ohashi Medical Center, Tokyo, Japan

**Abstract:**

**Purpose:** For the treatment of obstructive colorectal cancer, surgery after decompression is preferable for nutritional management. We evaluated the postoperative complications and nutritional status of colonic stent for Bridge to Surgery (BTS).

**Subjects and Methods:** From 1993 to 2019, we analyzed the clinical results of cases using colonic stent for obstructive colorectal cancer.

**RESULTS:** From 1993 to 2019, we experienced 281 cases of colorectal stent and performed 194 cases of obstructive colorectal cancer for BTS. Average age of 68 years, 116 males and 78 females. 183 patients (94%) could be placed without complications (technical success rate). The complications with stenting were perforation (4; 2%) and migration (4; 2%). Obstruction was relieved in 99%. The median time for colonic stent placement was 8 days, with an average of  $11.9 \pm 20.2$  days. Postoperative complications and mortality were 8.3% and 0 in cases with successful stent placement, which was significantly lower than 36% and 5% in cases with unsuccessful placement. In addition, the colostomy rate was 5.0% in cases where the stent was successfully placed and was extremely low compared to 71% in cases where the stent was not successfully placed. To examine changes in nutritional status before and after stent implantation, we examined 34 cases of Albumin and the prognostic nutrition index (OPNI) from 2017 to 2019. Before stent implantation, the average was 3.5/ 41.7, and after stent implantation was 3.2/ 38.3, which was not an improvement.

**Conclusion:** As a treatment policy for obstructive colorectal cancer, BTS colorectal stenting is an effective technique that not only improves QOL of patients immediately but also enables good postoperative results and reduces the rate of colostomy.

**O11-1 Combination of microsatellite instability and Immunoscore for the evaluation of immune response in colorectal cancer**

Streaming Room3

**Authors:** Kenji Fujiyoshi<sup>1</sup>, Takahiro Shigaki<sup>1</sup>, Tomoya Sudo<sup>1</sup>, Akihiro Kawahara<sup>2</sup>, Hiroyuki Nakane<sup>1</sup>, Takato Yomoda<sup>1</sup>, Sachiko Nagasu<sup>1</sup>, Kenichi Koushi<sup>1</sup>, Takafumi Ohchi<sup>1</sup>, Takefumi Yoshida<sup>1</sup>, Tomoaki Mizobe<sup>1</sup>, Tetsushi Kinugasa<sup>1</sup>, Jun Akiba<sup>2</sup>, Fumihiko Fujita<sup>1</sup>, Yoshito Akagi<sup>1</sup>

**Organisation:** <sup>1</sup>Surgery, Kurume University, Fukuoka, Japan; <sup>2</sup>Pathology, Kurume University

**Abstract:**

**Background:** Microsatellite instability (MSI) and tumor mutation burden (TMB) indicate tumor mutation load leading to recruitment of immune cells, whereas Immunoscore (IS) classification, which was designed by densities of tumor-infiltrating T cells, represents host immune response to tumor cells. Considering the different aspect of these tests, we hypothesized that the combination of MSI status and IS may be useful for the better assessment of immune response status within the tumor microenvironment.

**Methods:** A total of 73 patients who were surgically resected colorectal cancer were enrolled in this study. MSI status was diagnosed through immunohistochemistry of mismatch repair proteins. Utilizing computational image analyses, IS was calculated based on the densities of CD3 and CD8 cells in tumor tissue. Clinicopathological features was analysed among the combination of MSI status and IS classification. TMB was also compared among the combination of MSI status and IS.

**Results:** Among four subgroups, MSI/IS-high(H), MSI/IS-low(L), MSS/IS-H, and MSS/IS-L, age, sex, and T and N stage were no statistical significance between MSS/IS-H and MSS/IS-L groups. While tumors with MSI-H was associated with high TMB compared to tumor with MSS ( $p = 0.042$ ), tumors with IS-H were not associated with higher TMB compared to tumors with IS-L. As exceptional cases, high TMB was observed in one case of MSS/IS-H and one case of MSI/IS-L.

**Conclusions:** Our findings suggest that combining the immunogenic features of the tumor microenvironment such as IS with MSI status might be more precise in predicting immunotherapy response than either feature alone.

**O11-2 The association between tumor tissue miR-34a expression, tumor budding grade, and the clinical significance in surgically resected colorectal cancer patients**

Streaming Room3

**Authors:** Tadanobu Shimura<sup>1,2</sup>, Yoshinaga Okugawa<sup>1</sup>, Takahito Kitajima<sup>1</sup>, Akira Yamamoto<sup>1</sup>, Shozo Ide<sup>1</sup>, Hiroyuki Fujikawa<sup>1</sup>, Yoshiki Okita<sup>1</sup>, Takeshi Yokoe<sup>1</sup>, Masaki Ohi<sup>1</sup>, Ajay Goel<sup>2</sup>, Yuji Toiyama<sup>1</sup>

**Organisation:** <sup>1</sup>Department of Gastrointestinal and Pediatric Surgery, Mie University Graduate School of Medicine, Mie, Japan; <sup>2</sup>Center for Gastrointestinal Research, Baylor Scott & White Research Institute, Baylor University Medical Center, Texas, USA

**Abstract:**

**[Background]** Accumulating evidence reveals that tumor budding grade is associated with adverse features such as lymph node or distant metastasis, and poor prognosis in colorectal cancer (CRC) patients. While microRNA (miR)-34a is reported its tumor suppressive role as a negative regulator of some prevalent oncogenes, the association between miR-34a and tumor budding grade has not been fully elucidated.

**[Methods]** We examined the expression of miR-34a by Taqman-based qRT-PCR assays using fresh frozen tumor tissue samples in testing and validation cohorts (n=245, 136, respectively) composed of Stage1-4 CRC patients, subsequently we evaluated the association between its expression profiles and clinicopathological factors including tumor budding grade using optimal statistical analysis.

**[Result]** We revealed that low expression of miR-34a was significantly associated with lymph node metastasis (p=0.03, 0.001, respectively) and high tumor budding grade (p<0.0001, 0.004, respectively) in both testing and validation cohort, and distinguished patients with high tumor budding grade in high accuracy value of area under the curve (AUC, testing cohort: 0.65, validation cohort: 0.62. p<0.01, respectively). Furthermore, multivariate logistic regression analysis demonstrated that low expression of miR-34a was an independent risk factor for the detection of high tumor budding grade patients with a corresponding hazard ratio of 3.36 (p=0.0002) and 2.96 (p=0.02) in each cohorts.

**[Conclusion]** Our findings suggest that miR-34a is a potential key microRNA to show prominent association with CRC patients with high tumor budding grade.

## O11-3 A Cases of adenosquamous carcinoma of the ascending colon

Streaming  
Room3

**Authors:** Kohei Ono<sup>1</sup>, Ryu Shimada<sup>1</sup>, Yuka Okada<sup>1</sup>, Takahiro Yagi<sup>1</sup>, Mitsuo Tsukamoto<sup>1</sup>, Yoshihisa Fukushima<sup>1</sup>, Tsuyoshi Ozawa<sup>1</sup>, Tamuro Hayama<sup>1</sup>, Keijirou Nozawa<sup>1</sup>, Keiji Matsuda<sup>1</sup>, Mariko Yasui<sup>2</sup>, Yoshinao Kikuchi<sup>2</sup>, Yuko Sasajima<sup>2</sup>, Youjiro Hashiguchi<sup>1</sup>

**Organisation:** <sup>1</sup>Department of surgery, University of Teikyo, Tokyo, Japan; <sup>2</sup>Department of Pathology, University of Teikyo Hospital

### Abstract:

A 60s man complaining of fever was admitted to our referred hospital. He was admitted to our hospital because of anemia. Total colonoscopy demonstrated a type 2 tumor of the ascending colon. Contrast-enhanced CT was suspected to have metastasized to lymph nodes near the tumor. In addition, a nodule shadow in the lung, suggesting primary lung cancer. PET-CT showed accumulation in the left acetabulum and right femur. Laparoscopic right hemicolectomy was performed with a diagnosis of ascending colon cancer T4aN2bM1a (OSS) Stage IVa. When the inside of the abdominal cavity was observed, there were three nodules on the surface of the right lobe of the liver that were suspected to have metastasized. Because the peritoneum and the right iliopsoas muscle were invaded, the patient was resected. Pathological findings were adenosquamous carcinoma, invasion depth was T4a (SE), and lymph node metastasis was N0. Adenosquamous carcinoma was diagnosed because the components of squamous cell carcinoma occupy 80% of the whole and glandular cavity formation accounts for about 20%. Immunostaining showed CK5 / 6 (+), p40 (+) and CDX2 (-). An intraabdominal abscess was found postoperatively, and CT-guided drainage was performed. The subsequent course was favorable and he was discharged. Primary adenosquamous carcinoma of the large intestine is extremely rare, accounting for about 0.1% of all large intestine cancers, and it has been reported that the prognosis is poorer than that of general colon cancer. As for the treatment of adenosquamous cell carcinoma, surgical resection is the first choice for resectable cases similar to general colorectal cancer, but no treatment method for unresectable cases has been established. Careful selection of treatment is being considered in this case as well.

---

**O11-4 Impact of microsatellite instability testing in the management of stage II colon cancer with high-risk features**

Streaming  
Room3

**Authors:** Duangkamon Bunkham<sup>1</sup>, Sukit Pattarajierapan<sup>1</sup>, Anapat Sanpavat<sup>2</sup>, Prapon Kanjanasilp<sup>1</sup>

**Organisation:** <sup>1</sup>Colorectal Division, Department of Surgery, Chulalongkorn University, Bangkok, Thailand; <sup>2</sup>Department of Pathology, Chulalongkorn University, Bangkok, Thailand

**Abstract:**

**Background:** A decision to treat a stage II colon cancer patient with adjuvant chemotherapy is challenging. At present, the guidelines recommend a range of treatment options from observation to chemotherapy, depending on high-risk features and MSI status. There is still controversy concerning those patients with high-risk stage II colon cancer who had MSI-H status about prognosis and the benefits of adjuvant chemotherapy.

**Method:** We enrolled specimens from patients with high-risk stage II colon cancer who were diagnosed at KCMH between 2008 and 2017. According to the NCCN guidelines, high-risk features include the following: T4 tumor, poorly differentiation, lymphovascular invasion, perineural invasion, suboptimal lymph node sampling (<12), positive margin and history of perforation and obstruction. Microsatellite instability was assessed by staining MMR proteins. The primary endpoint was disease-free survival (DFS).

**Results:** A total of 189 specimens were analyzed, 29 (15.3%) of which exhibited MSI-H. Characteristic features of MSI-H colon cancer were typically found in a tumor arising from the right side of the colon and poor histological tumor grade ( $p < 0.005$ ). 5-year disease-free survival among patients with MSI-H (96%) was significantly greater than among patients with MSS/MSI-L (80%;  $p = 0.046$ ). The benefits of adjuvant chemotherapy were not superior to surgery alone in patients with MSI-H status ( $p = 0.944$ ).

**Conclusions:** Microsatellite instability testing may benefit to guide postoperative management of stage II colon cancer with high-risk features. Our data shows patients with MSI-H have significantly improved 5-yr DFS when compared to MSS/MSI-L and this group may not gain survival benefits from adjuvant chemotherapy.

---

**O11-5 Enhanced recovery after surgery improves 5-year overall survival in non-metastatic colorectal cancer (especially stage III) following curative resection**

Streaming Room3

**Authors:** Sarinda Lertbannaphong, Varut Lohsiriwat, Bundhawich Polakla, Woramin Riansuwan

**Organisation:** Colorectal Surgery Unit, Department of Surgery, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand

**Abstract:**

**Background:** Enhanced recovery after surgery (ERAS) protocol has been proven to reduce perioperative stress and improve short-term outcomes after colorectal cancer (CRC) surgery. However, its evidence on oncological outcomes remains unclear. This study aimed to determine the impact of ERAS protocol on 5-year overall survival (OS) after curative resection for non-metastatic CRC, and to evaluate the association between adherence to ERAS protocol and long-term survival.

**Methods:** Patients undergoing curative resection for stage I-III CRC at Siriraj Hospital, Thailand, between 2010-2016 were reviewed. Outcomes between patients within ERAS versus those with conventional care (CC) were compared. Patients with high adherence to ERAS ( $\geq 70\%$ ) were also compared with those with lower adherence. The primary outcome was 5-year OS.

**Results:** Between 2010-2012, 349 patients had curative CRC surgery: 70(20%) with ERAS and 279(80%) with CC. The 5-year overall survival was 80.3% in ERAS group and 65.6% in CC group (HR 0.54, 95%CI 0.33-0.88,  $p=0.014$ ). ERAS was associated with an increase in 5-year OS for stage III CRC (72.6% vs 57.2%, adjusted HR 0.54, 95%CI 0.30-0.98,  $p=0.041$ ) but not stage I-II CRC. Regarding impact of ERAS adherence, 320 patients within the ERAS program between 2010-2016 were reviewed: 232(73%) with high adherence. The 5-year OS was 83.9% in high adherence group and 69.6% in low adherence group (HR 0.49, 95% CI 0.29-0.83,  $p=0.007$ ). High adherence to ERAS had a better 5-year OS in stage III CRC (80.5% vs 60.7%, adjusted HR 0.44, 95%CI 0.23-0.84,  $p=0.013$ ), but not stage I-II CRC.

**Conclusion:** ERAS increased 5-year OS in resectable stage III CRC comparing with CC. High adherence to the ERAS protocol associated with better 5 year OS after curative surgery for stage III CRC.

---

**O12-1 Urinary metabolomic profiles of colorectal cancers**Streaming  
Room3

**Authors:** Ryutaro Udo<sup>1</sup>, Kenji Katsumata<sup>1</sup>, Junichi Masaki<sup>1</sup>, Hiroshi Kuwabara<sup>1</sup>, Masanobu Enomoto<sup>1</sup>, Tetsuo Ishizaki<sup>1</sup>, Yuichi Nagakawa<sup>1</sup>, Makoto Sunamoto<sup>1</sup>, Masahiro Sugimoto<sup>2,3</sup>, Akihiko Tsuchida<sup>1</sup>

**Organisation:** <sup>1</sup>Department of Gastrointestinal Surgery and Pediatric Surgery, University of Tokyo Medical, Tokyo, Japan; <sup>2</sup>Institute for Advanced Biosciences, University of Keio, Yamagata, Japan; <sup>3</sup>Research and Development Center for Minimally Invasive Therapies, Medical Research Institute, University of Tokyo Medical

**Abstract:**

Colorectal cancer (CRC) cancer is one of the most fearful diseases due to its increasing worldwide prevalence, which requires imperative development of low or non-invasive screening tests. Urine is an ideal biofluid that can be collected non-invasively enable us frequent tests. Here, we conducted the metabolomics analysis using capillary electrophoresis-time-of-flight-mass spectrometry to quantify hydrophilic metabolites. We collected 247 urine specimens including CRC, polyp, and healthy controls. Clustering analyses showed different pattern of metabolomic profile among these three groups and also stage-specific differences in CRC. The data was randomly split into two datasets. Alternative decision tree-based discrimination model was developed using one of the data and validated the rests, which yielded the area under receiver operating characteristic curve (AUC) was 0.897 (95 % Confidential Interval [CI]: 0.779 – 0.960,  $P < 0.0001$ ) to differentiate CRC from the polyp and healthy controls using validation data. These data indicated the potential of urinary metabolomic profile as a screening tool of CRC.

---

## O12-2 Prognostic risk factors of lymph node metastasis in cases with pT1 colorectal cancer

Streaming  
Room3

**Authors:** Takafumi Suzuki, Masafumi Tanaka, Kazutaka Yamada, Yasumitsu Saiki, Mitsuko Fukunaga, Yoriyuki Tsuji, Shota Takano, Yasushi Nakamura, Kensaku Fukami, Masahiro Takano

**Organisation:** Department of Gastroenterological Surgery, , Coloproctology Center Takano Hospital, Kumamoto, Japan

### Abstract:

**Introduction:** This retrospective study analyzed the prognostic risk factors of lymph node metastasis (LNM) in cases with pT1 colorectal cancer. **Patients and Methods:** (Examination 1) Patients (n=534) who underwent curative resection with lymphadenectomy for pT1 colorectal cancer from 1983 to 2017 were enrolled in this study and the LNM prognostic risk factors, budding and poorly differentiated clusters (PDC), were analyzed. (Examination 2) The relationship between the high-risk factors and LNM for each tumor depth in patients (n=508) who underwent curative resection with lymphadenectomy for pStage I-III colorectal cancers from 1983 to 2017 were analyzed. (Examination 3) Patients (n=79) who needed additional colorectal resection after endoscopic resection for colorectal cancer from 2010 to 2017 were divided into the following 3 groups; High-risk group (PDC G2/3 and budding G2/3), Middle-risk group (Lymphovascular invasion positive) and Low-risk group (submucosa invasion more than 1000µm) and the frequency of LNM for each group were analyzed. **Results:** (Examination 1) LNM was detected in 54 cases (10%). Multivariate analysis revealed that PDC positive (Grade 1b/2/3) was a significant prognostic factor for LNM (Odd's ratio: 3.4,  $p = 0.0007$ ). (Examination 2) The LNM rates significantly correlated with tumor depth (T1: 12%, T2: 25%, T3: 37%, T4: 52%) in cases with budding (G2/3), lymphovascular invasion, and PDC. (Examination 3) The LNM rate in the High-risk group was 34%. There was no LNM in the middle and low groups ( $p = 0.002$ ). **Conclusion:** The prognostic factors for LNM in cases with pT1 colorectal cancer were budding and PDC. The findings in this study suggest that additional intestinal resection is not necessary for pT1 colorectal cancer with a low risk of LNM.

**O12-3 Difference in pathologic assessment of serrated colorectal lesions between Japanese and Australian pathologists**

Streaming Room3

**Authors:** Daiki Nemoto<sup>1</sup>, Cheng Liu<sup>2</sup>, Hiroshi Hojo<sup>3</sup>, Masato Aizawa<sup>1</sup>, Barbara Leggett<sup>4</sup>, Vicki Whitehall<sup>5</sup>, Kazutomo Togashi<sup>1</sup>

**Organisation:** <sup>1</sup>Department of Coloproctology, Aizu Medical Center, Fukushima Medical University, Fukushima, Japan; <sup>2</sup>Envoi Specialist Pathologists, Brisbane, Queensland, Australia; <sup>3</sup>Department of Diagnostic Pathology, Aizu Medical Center, Fukushima Medical University, Fukushima, Japan; <sup>4</sup>Faculty of Medicine, University of Queensland, Brisbane, Queensland, Australia; <sup>5</sup>The Conjoint Gastroenterology Laboratory, QIMR Berghofer Medical Research Institute, Brisbane, Queensland, Australia

**Abstract:**

**Background:** There are significant interobserver differences in the histological assessment of colorectal polyps. Sessile serrated lesion (SSL) is a relatively new entity advocated by western pathologists. The aim of this study is to compare pathologic assessment of serrated colorectal lesions between Japanese and Australian pathologists.

**Methods:** A total of 266 consecutively diagnosed and excised serrated colorectal lesions from a single institution in Japan were included. The initial pathologic diagnosis was made by one Japanese pathologist (HH). An Australian pathologist (CL) assessed the scanned images of the lesions for this study. Both pathologists followed the latest WHO classification. Interobserver agreement was quantified by the  $\kappa$  statistic.

**Results:** A total of 264 lesions (mean size  $10.7 \pm 6.2$  mm; proximal 67%, distal 33%) resected from 242 patients (mean age 66.3 years; female 107, male 137) were examined. Concordance rate between Japanese and Australian pathologists was 82.6% (218/264). Rate of traditional serrated adenoma (TSA) diagnosis was higher than previously reported for both pathologists, especially by the Australian (25%). Notably, 9% (19/202) of SSL diagnosed by the Japanese were assessed as TSA by the Australian. All microvesicular hyperplastic polyps diagnosed by the Japanese were reclassified into another polyp type by the Australian. Overall  $\kappa = 0.57 \pm 0.05$ . In subgroup analysis, agreement was poor in large (>10mm) lesions ( $\kappa = 0.38$ ) and proximal lesions ( $\kappa = 0.23$ ). Concordance rate for cytological dysplasia was 93.8% (243/259), and  $\kappa = 0.55$ .

**Conclusions:** Pathologic assessment of serrated colorectal lesions is generally consistent, with TSA accounting for the majority of discrepancies. Australian pathologists are more likely to diagnose TSA.

---

**O12-4** What is the relevant surgical extent for clinical stage I right colon cancer?

Streaming  
Room3

**Authors:** Han Deok Kwak, Jun Seong Chung, Jae Kyun Ju

**Organisation:** Department of Surgery, Chonnam National University Hospital, Gwangju, Korea

**Abstract:**

**Background**

No clear guidelines have been published so far regarding the extent of surgical resection for early colorectal cancer. The study was designed to identify an appropriate surgical resection through comparative analysis of patients diagnosed with clinical and pathologic stage I.

**Methods**

Patients were treated for clinical and pathological stage I right-side colon cancers (cecal, ascending, hepatic flexure, proximal transverse colon) between July 2006 and December 2014 at a tertiary teaching hospital. The authors analyzed preoperative patients' characteristics, perioperative parameters short- and long-term term outcomes. For comparison of accurate oncologic outcomes, all patients were included only in cases of radical lymph node (D3) dissection.

**Results**

There was no difference between the groups in patients' factors, perioperative parameters, and short-term outcome. However, the biopsy reported that out of 80 patients with clinical stage I, only 39 patients were stage 0 or I, and 41 patients with over stage II. There were statistical differences between clinical and pathologic stage I in overall and cancer-specific survival when compared with 113 patients who had been diagnosed pathologic stage I.

**Conclusions**

Clinical stage I showed that more than 50% of higher stage than expected, showing poorer oncological outcomes compared to pathologic stage I in right side colon cancers. Therefore, radial lymph node dissection could be required for clinical stage I.

---

**O12-5 New anastomosis technique to prevent anastomotic leakage in laparoscopic anterior resection for rectal cancer, especially upper rectal cancer**

Streaming Room3

**Authors:** Koji Ando, Naotaka Kuriyama, Yoshiaki Fujimoto, Tomoko Jogo, Kentaro Hokonohara, Qingjiang Hu, Yuichi Hisamatsu, Ryota Nakanishi, Yasue Kimura, Eiji Oki, Masaki Mori

**Organisation:** Department of Surgery and Science, School of Medicine, Kyushu University, Fukuoka, Japan

**Abstract:**

**Aim:** Anastomotic leakage (AL) is a major problem in rectal cancer surgery. To prevent AL, we developed a side-to-side anastomosis technique using a circular stapler and termed it the circular side stapling technique (CST). We herein report the method and outcome of the CST.

**Methods:** We introduced the CST in January 2013. In this study, we analyzed 154 patients with stage 0 to III rectal cancer (rectosigmoid, n=63; upper rectum, n=64; lower rectum, n=27) who underwent curative laparoscopic low anterior resection from January 2013 to December 2018. Perioperative factors and complications were compared between the CST and usual double stapling technique (DST).

**Results:** The CST was performed in 110 of the 154 patients. Among patients with upper and lower rectal cancers, the CST was performed in 47 patients (upper rectum, n=41; lower rectum, n=6) and the usual DST in 44 patients (upper rectum, n=23; lower rectum, n=21). AL was observed in 1 (2.1%) of the 47 patients treated by the CST and in 3 (6.8%) of the 44 patients treated by the DST. Because the tumor locations were quite different between the CST and DST, we next compared the outcomes in patients with upper rectal cancer. AL occurred in no patients in the CST group and in three patients in the DST group (P=0.011). The CST prevented AL in all patients with upper rectal cancer.

**Conclusion:** The CST is a safe and useful procedure in laparoscopic anterior resection. This technique can prevent AL, especially in patients with upper rectal cancer.

## O12-6 The intraoperative fluorescence lymph flow navigation in colorectal surgery

Streaming  
Room3

**Authors:** Yusuke Suwa<sup>1</sup>, Jun Watanabe<sup>1</sup>, Koki Goto<sup>1</sup>, Kazuya Nakagawa<sup>3</sup>, Hirokazu Suwa<sup>2</sup>, Mayumi Ozawa<sup>3</sup>, Atsushi Ishibe<sup>3</sup>, Tsutomu Sato<sup>1</sup>, Kazunobu Takeda<sup>1</sup>, Mitsuyoshi Ota<sup>4</sup>, Chikara Kunisaki<sup>1</sup>, Itaru Endo<sup>3</sup>

**Organisation:** <sup>1</sup>Gastroenterological Center, Yokohama City University Medical Center, Kanagawa, Japan; <sup>2</sup>Department of Surgery, Yokosuka Kyosai Hospital; <sup>3</sup>Department of Gastroenterological Surgery, Yokohama City University; <sup>4</sup>Department of Surgery, Yokohama City Minato Red Cross Hospital

### Abstract:

**Backgrounds;** The fluorescence navigation could help to accuracy of appropriate lymph node dissection as well as blood flow.

**Aim:** To evaluate lymph flow in splenic flexure and in lateral lymph flow, which are partly incomplete understood the lymphatic drainage of these regions.

**Methods;** The splenic flexure navigation: We inject ICG 2.5mg/1ml in subserosal or submucosal layer using a 23-gauge needle 30 minutes before starting lymph node dissection in splenic flexure. The LLND navigation; 0.5mg/0.2ml was injected four places just anal side of the tumor submucosally.

We can detect lymph flow and lymph node using a fluorescence detection system for laparoscope, and we were performed lymph node dissection based on the information of the intraoperative fluorescence navigation.

**Outcomes:** These studies were retrospectively conducted from April of 2013 to March of 2017.

The splenic flexure; the 42 patients, who was diagnosed with clinical N0 and M0, were included. 8 patients had pathological metastasis lymph node. All metastasis lymph node was in the area where we can see the lymph flow with the intraoperative fluorescence navigation. The 3year-OS was 100%, 3year-RFS was 97.4%. 2 cases have had recurrence; one had liver and lung metastasis; the other case had peritoneum dissemination. There were no cases having lymph node recurrence.

The LLND; we were performed in 85 patients. 11 patients had metastatic lateral lymph node. 3 year-OS was 91.2%, 3 year-Local RFS was 91.3%, 3 year-Lateral lymph node RFS was 97.5%.

**Conclusion:** The mid-term outcomes of the colorectal surgery with intraoperative fluorescence navigation of lymph flow was feasible. In the future, these techniques could help to achieve more tailored patients and tumor specific cancer resections.

**O13-1 Multicenter randomized phase two study on effectiveness of negative pressure wound therapy for the wound of ileostomy closure**

Streaming Room3

**Authors:** Koichiro Kojima<sup>1</sup>, Mayu Goto<sup>2</sup>, Yasuo Nagashima<sup>2</sup>, Masaya Kawai<sup>3</sup>, Tadahiko Masaki<sup>1</sup>, Eiji Sunami<sup>1</sup>, Ken Eto<sup>4</sup>, Keijiro Nozawa<sup>5</sup>, Kazuhiro Sakamoto<sup>3</sup>, Kimihiko Funahashi<sup>2</sup>

**Organisation:** <sup>1</sup>Department of Surgery, Kyorin University, Tokyo, Japan; <sup>2</sup>Department of General and Gastroenterological Surgery, Toho University Omori Medical Center; <sup>3</sup>Department of Coloproctological Surgery, Juntendo University; <sup>4</sup>Department of Surgery, The Jikei University; <sup>5</sup>Department of Surgery, Teikyo University

**Abstract:**

**Purpose**

To investigate the effectiveness and optimal duration of negative pressure wound therapy (NPWT) combined with the standard purse-string suture (PSS) for stoma closure.

**Methods**

In this prospective randomized controlled multicenter phase II study, patients with ileostomy scheduled for closure surgery (March 2018-March 2019) were included and assigned to the following three groups according to the interventions received: Group A, postoperative wound management using gauze dressing changes (conventional PSS); Group B, conventional PSS plus NPWT for 1 week; and Group C, conventional PSS plus NPWT for 2 weeks. The primary endpoint was wound reduction rate. Secondary endpoints were the incidence of surgical site infection, length of hospital stay, and wound healing period.

**Results**

Thirty patients were recruited and were equally divided into three groups. [A4] The wound reduction rate was significantly higher in Group B than in Group A on postoperative day (POD) 7 and 10 (66.1% vs. 48.4% (POD 7),  $p=0.049$ ; 78.6% vs. 58.2% (POD 10),  $p=0.011$ ) whereas no significant difference was observed on POD 14. Group C (POD 7: 65.9%, POD 10: 69.2%) did not show any significant differences. Nevertheless, Group C showed an increase in the reduction rate on POD 7 ( $p=0.075$ ). NPWT with PSS exhibited increased infection rate, although it was not significant ( $p=0.5070$ ). [A5] Infections were observed in both Group B ( $n=2$ ) and Group C ( $n=2$ ) (20%), but none in Group A (0%).

**Conclusion**

NPWT with PSS increased the wound reduction rate until POD 10, but it did not decrease the wound healing duration and may increase the infection rate.

**O13-2 Predisposing factors and clinical impact of high-output syndrome after sphincter-preserving surgery with covering ileostomy for rectal cancer**

Streaming Room3

**Authors:** Yoko Zaitzu<sup>1</sup>, Ryota Nakanishi<sup>1,3</sup>, Erika Nakaya<sup>2</sup>, Yukiharu Hiyoshi<sup>1</sup>, Toshiki Mukai<sup>1</sup>, Tomohiro Yamaguchi<sup>1</sup>, Toshiya Nagasaki<sup>1</sup>, Takashi Akiyoshi<sup>1</sup>, Satoshi Nagayama<sup>1</sup>, Yosuke Fukunaga<sup>1</sup>, Tsuyoshi Konishi<sup>1</sup>

**Organisation:** <sup>1</sup>Department of Gastroenterological Surgery, Cancer Institute Hospital of the Japanese Foundation for Cancer Research, Tokyo, Japan; <sup>2</sup>Department of Clinical Nutrition, Cancer Institute Hospital of the Japanese Foundation for Cancer Research; <sup>3</sup>Department of Surgery and Science, Graduate School of Medical Sciences, Kyushu University

**Abstract:**

**Background**

Ileostomy-related high-output syndrome (HOS) has become a major cause of postoperative morbidity after rectal cancer surgery. This study aimed to clarify the predisposing factors and clinical impact of HOS.

**Methods**

Clinical parameters that were associated with HOS and clinical impact of HOS on nutritional status, electrolyte abnormality, and renal dysfunction were retrospectively investigated in consecutive patients with rectal cancer undergoing resection with covering ileostomy during 2016-2017.

**Results**

HOS developed in 44/195 eligible patients (22.6%). Multivariable analysis revealed that neoadjuvant (chemo)radiotherapy (odds ratio (OR): 2.4; 95% confidence interval (CI):1.1–5.2; p = 0.02), postoperative complications (OR: 2.2; 95% CI: 1.0–4.6; p =0.049), postoperative maximal white blood cell  $\geq 10,000$  cells/ $\mu$ l (OR: 4.0; 95% CI:1.9–8.8; p = 0.0004), and postoperative maximal C-reactive protein  $\geq 10$  mg/dl (OR:2.4; 95% CI: 1.1–5.2; p = 0.02) were independently associated with HOS. HOS was associated with increased renal dysfunction at the time of ostomy closure (29.5% versus 20.5%, patients with HOS vs without HOS, p = 0.008), but not with nutritional imbalance or electrolyte abnormalities. HOS (OR: 2.5; 95% CI: 1.1–5.9; p = 0.03) and postoperative maximal C-reactive protein  $\geq 10$  mg/dl (OR: 2.4; 95% CI: 1.0–5.6; p =0.04) were independently associated with renal dysfunction at ostomy closure.

**Conclusions**

Preoperative (chemo)radiotherapy, postoperative inflammatory response, and postoperative complications predisposed to HOS, and HOS significantly impacted postoperative renal dysfunction. Active monitoring and early intervention are warranted to prevent renal dysfunction in patients with these factors.

**O13-3 A combination of subcuticular sutures and subcutaneous closed-suction drainage reduces the risk of incisional surgical site infection in loop ileostomy closure**

Streaming  
Room3

**Authors:** Kohei Fukuoka<sup>1</sup>, Fumikazu Koyama<sup>1,2</sup>, Hiroyuki Kuge<sup>1</sup>, Shinsaku Obara<sup>1</sup>, Takayuki Nakamoto<sup>1,2</sup>, Yosuke Iwasa<sup>1</sup>, Takeshi Takei<sup>1</sup>, Yayoi Matsumoto<sup>1</sup>, Tomomi Sadamitsu<sup>1</sup>, Masayuki Sho<sup>1</sup>

**Organisation:** <sup>1</sup>Department of Surgery, Nara medical University, Nara, Japan; <sup>2</sup>Department of Endoscopy, Nara medical University

**Abstract:**

**Purpose** The purpose of this study was to evaluate the effectiveness of a wound closure method using a combination of subcuticular sutures and subcutaneous closed-suction drainage (SS closure) for preventing incisional surgical site infection (SSI) in loop ileostomy closure. **Methods** A total of 178 consecutive patients who underwent loop ileostomy closure at Nara Medical University Hospital between 2004 and 2018 were retrospectively assessed. The patients were divided into two groups: the conventional skin closure (CC) group from 2004 to 2009 (75 patients) and the SS closure (SS) group from 2010 to 2018 (103 patients). Patients' characteristics and surgical outcomes were compared between the two groups. In addition, factors associated with incisional SSI were extracted by univariate and multivariate analyses. **Results** In the SS group, the rates of diabetes ( $p=0.045$ ) and steroid use ( $p=0.006$ ) as patient characteristics, instrumental anastomosis ( $p=0.031$ ) as surgical procedures, and blood loss ( $p=0.025$ ) as surgical outcomes were significantly greater than in the CC group. Incisional SSI occurred in 7 cases (9.3%) in the CC group but was significantly reduced to only 1 case (0.9%) in the SS group ( $p=0.034$ ). The hemoglobin ( $<10$  g/dL) (hazard ratio [HR]=10.1,  $p=0.011$ ) and creatinine levels ( $>1$  mg/dL) (HR=4.77,  $p=0.035$ ) and the SS procedure (HR=0.06,  $p=0.002$ ) were extracted as factors associated with the development of incisional SSI by a univariate analysis. The SS closure was the only independent preventive factor for incisional SSI according to the multivariate analysis. **Conclusion** The combination of subcuticular sutures and subcutaneous closed-suction drainage may be a promising way of preventing incisional SSI in loop ileostomy closure.

## O14-1 Characteristics of male patients with fecal incontinence compared to female

Streaming  
Room3

**Authors:** Sayuri Matsushima, Joji Kuromizu, Youtaro Watanabe, Ayumi Beniya, Noriko Kosuge, Yoshioki Hikosaka, Hideyuki Wakabayashi, Yoichi Kono, Remi Katori, Naomi Matsumura, Masahiko Hukano, Kousuke Okamoto, Yasuhiro Shimojima, Jiangteng Song, Yutaka Suzuki, Yasushige Nagashima, Kazunori Suzuki, Makoto Matsushima

**Organisation:** department proctology, Matsushima hospital, Kanagawa, Japan

### **Abstract:**

Background:

Although there is no gender difference in the prevalence of fecal incontinence (FI) in community studies, there are few reports about male with FI. The aim of this study was to investigate the characteristics of FI by comparing male with female patients.

Methods:

Between October 2016 and September 2017, 408 patients(149 male, 259 female) with FI who visited Matsushima hospital coloproctology center were retrospectively evaluated. Data on age, number of bowel movements, Bristol stool form scale, number of fecal incontinence, incontinence scores(CCFIS, FISI), anal manometry, coexisting disease and history of anal surgery were analysed.

Results:

(1) The frequency of male with FI in which the maximum resting pressure and maximum voluntary pressure were within the normal range was higher than that of female with FI (male:34.9%, female:12.4%) ( $p<0.001$ ). The prevalence of irritable bowel syndrome (IBS) (male:50.3%, female:12.4%) ( $p<0.001$ ) and history of anal surgery(male:29.5%, female:17.4%) ( $p=0.027$ ) was higher in male. Mepenzolate bromid was used as a treatment for IBS and the frequency of use was higher in male(male:13.4%, female:5.0%) ( $p=0.005$ ). Response to treatment was good in both gender (male:  $p<0.001$ , female:  $p<0.001$ ).

(2) We compared normal and impaired anal pressure group by gender. Mean age was younger in male with normal anal pressure than with impaired anal pressure( $p<0.001$ ). The prevalence of IBS in male patients was not difference between the normal anal pressure group and impaired group.

Conclusions:

In this study, male patients with FI show more normal anal sphincter function than female. IBS and previous anal surgery were more frequently in male with FI. FI was controllable in most patients.

**O14-2 Is there any gender difference of clinical characteristics in patients with fecal incontinence?**

Streaming  
Room3

**Authors:** Toshiki Mimura, Yuko Honmma, Kenichi Oshiro, Satoshi Murahashi, Gaku Ota, Yuko Kumagai, Mineyuki Tojo, Daishi Naoi, Ai Sadatomo, Koji Koinuma, Hisanaga Horie, Naohiro Sata

**Organisation:** Division of Gastroenterological, General and Transplant Surgery, Department of Surgery, Jichi Medical University, Tochigi, Japan

**Abstract:**

**[Purpose]** To elucidate the gender difference of clinical characteristics in patients with fecal incontinence (FI).

**[Methods]** The subjects were patients who visited our out-patient clinic complaining of FI between May 2018 and December 2019. The gender difference was compared regarding their clinical characteristics, which included age, type of FI (passive, urge or mixed fecal incontinence), severity of FI symptoms and FI-specific quality of life (QOL). The FI symptomatic severity was evaluated with Fecal Incontinence Severity Index (FISI), Cleveland Clinic Florida Fecal Incontinence Score (CCFIS) and St Mark's Incontinence Score (SMIS). The FI-specific QOL was assessed with the Japanese version of the Fecal Incontinence Quality of Life Scale (JFIQL). The manometric data were also compared between men and women.

**[Results]** The subjects were 94 patients with 34 male (M) and 60 female (F). Their median age was 70 years old (range:16-87). There was no gender difference regarding the age (M vs F = median 71.5 vs 70.0 y.o, P=0.87) and type of FI (M vs F = Passive: 50 vs 57%, Urge: 21 vs 23%, Mixed: 29 vs 20%, P=0.59) . No gender difference was found regarding FISI (M vs F = 23.5 vs 19, P=0.31), CCFIS (M vs F = 11 vs 11, P=0.95), SMIS (M vs F = 12.5 vs 12.5, P=1.0) and JFIQL (M vs F = 2.7 vs 2.6, P=0.46). Regarding manometric data, significant difference was demonstrated in the incremental maximum squeeze pressure (M vs F = 176 vs 109mmHg, P=0.0005), while no gender difference existed in functional anal canal length (M vs F = 3.2 vs 2.8cm, P=0.53) and maximum resting pressure (M vs F = 40 vs 38mmHg, P=0.56).

**[Conclusion]** There was no significant gender difference of clinical characteristics in patients with FI, except that men had stronger external anal sphincter.

## O14-3 Is “clustering of stools” an exclusive symptom to low anterior resection syndrome

Streaming  
Room3

**Authors:** Yuko Homma, Toshiki Mimura, Kenichi Oshiro, Satoshi Murahashi, Gaku Ota, Yuko Kumagai, Mineyuki Tojo, Daishi Naoi, Ai Sadatomo, Koji Koinuma, Hisanaga Horie, Naohiro Sata

**Organisation:** Division of Gastroenterological, General and Transplant Surgery, Department of Surgery, Jichi Medical University, Tochigi, Japan

**Abstract:**

**Objective:** Clustering of stools (CS) is a distinctive item among 6 items of Low Anterior Resection Syndrome score (LARSs). The aim of this study is to investigate whether CS is exclusive to patients with LARS or can be seen among those with fecal incontinence (FI).

**Method:** The subjects were patients whose bowel disorders started after low anterior resection (LARS group, LARS-G) and those with FI of other etiologies (FI-G), treated between May 2018 and October 2019. The prevalence of CS and their quality of life (QOL) were compared between the two groups. The CS was defined as “twice or over bowel movements within one hour”, and patients who had CS “once a week or more” were classified as those with “CS”. The severity of LARS and FI were assessed with LARSs and Fecal Incontinence Severity Index (FISI), respectively. The FI-specific QOL was evaluated with Japanese version of the Fecal Incontinence Quality of Life Scale (JFIQL).

**Results:** The subjects were 61 patients with 9 LARS and 52 FI. There was no significant difference regarding the age and gender. The bowel frequency was significantly higher in LARS-G (10 times/day, range: 3-20) than in FI-G (1.7: 0-10), ( $P < 0.0001$ ). The LARSs was 41 (18-41) in LARS-G, while FISI was 17 (0-41) in FI-G. There was no significant difference of JFIQL between LARS-G (2.2: 1.4-3.3) and FI-G (2.8: 1.1-4.0), ( $P = 0.08$ ). The CS was observed in 65% of patients in FI-G, although its prevalence was significantly higher in LARS-G (100%,  $P = 0.048$ ). In FI-G, the JFIQL was significantly lower in 34 patients with CS (median 2.3) than in 18 patients without CS (3.2,  $P = 0.005$ ).

**Conclusion:** CS is not an exclusive symptom to LARS and can be seen in 65% of patients with FI of other etiologies. CS is also associated with worse QOL in FI patients.

**O14-4 Anal and perineal reconstruction surgery and outcomes for severe obstetric anal sphincter injuries**

Streaming Room3

**Authors:** Tomoko Takahashi<sup>1</sup>, Akira Tsunoda<sup>1</sup>, Yumi Tanabe<sup>2</sup>, Yukiko Shimizu<sup>3</sup>, Hiroshi Kusanagi<sup>1</sup>

**Organisation:** <sup>1</sup>Gastroenterological Surgery, Kameda Medical Center, Chiba, Japan; <sup>2</sup>Department of Plastic Surgery, Kameda Medical Center; <sup>3</sup>Department of Obstetrics and Gynecology, Kameda Medical Center

**Abstract:**

«Background» Obstetric anal sphincter injuries is one of the causes of fecal incontinence in women, and it is recommended to repair immediately at delivery. But sometimes postpartum women have very thin perineum like cloaca due to failure repair at delivery. We have tried the surgery for such cases which is suturing not only anal sphincter but also superficial transverse perineal muscle and making the perineum by Gluteal Fold Flap. This aim of this study was to clarify the effect of this surgery.

«Methods»

We performed surgery on women with obstetric anal sphincter defect of more than 120 degrees . The surgery performed at lithotomy position . We make a large incision to find the divided sides of the external sphincter. After release of the anal sphincter sides, we performed same way for superficial transverse perineal muscle sides. Reconstruction of muscles was performed end to end suture by non-absorbent thread. The gluteal fold flap is made and moved to perineal position by plastic surgeon. As an evaluation of defecation function, anal manometry and Fecal Incontinence Severity Index (FISI) were used before and 3, 6 and 12 months after surgery. Data was shown as median.

«Results»

Eight women (age 38 [21-45]) were underwent this procedure. Follow up period was 14.4 months (6-77). In anal manometry, maximum resting pressure showed no change at before and after surgery , but maximum squeezing pressure showed increasing after surgery (56, 102.5, 107, 102mmH2O).

FISI score showed immediately improvement after surgery (22.5, 16, 12, 8).

«Conclusion»

For large obstetric anal sphincter defect, sphincter repair with suturing superficial transverse perineal muscle and making gluteal fold flap may be effective for reconstruction and anal function.

---

**O14-5 Standardized method of the thiersch operation for the treatment of fecal incontinence**

Streaming  
Room3

**Authors:** Cheong Ho Lim, Wook Ho Kang, Young Chan Lee, Yong Taek Ko, Byung Eun Yoo, Hyung Kyu Yang

**Organisation:** Coloproctology, Yang Hospital, Namyangju, Korea

**Abstract:**

*Background* Conventionally, the Thiersch operation has typically involved blind positioning of the sling, and sling tension is subjectively based on a rule-of-thumb estimate. The aim of this study was to describe standardized methods for performing the Thiersch operation.

*Methods* Seventeen patients with fecal incontinence underwent the calibrated method of the Thiersch procedure. As an encircling sling, a 6-mm-wide Silastic tube was used. Through 4 minimal perianal skin incisions, the sling was placed proximal to the anal skin 3 cm from the anal verge and 4 cm in depth. The circumference of the sling was 10 cm in length. Results were assessed by clinical responses and by comparing pre- and postoperative Wexner scores. The data were collected retrospectively.

*Results* The median follow-up period was 9 months (range, 6–19). In 16 out of 17 fecal incontinence patients (94.1%), the median Wexner incontinence score was 0 (range, 0–3) postoperatively. Localized sepsis developed in three cases (17.7%, 3/17), which were controlled with drainage and antibiotics. Fecal impaction occurred in one case (5.9%, 1/17). There was no removal or breakage of the inserted sling.

*Conclusions* The elasticity of the silastic tube reduced the incidence of sling breakage. According to the standardized method, the sling was placed external to the external anal sphincter muscle and at the junction of the external anal sphincter muscle and puborectalis muscle. Fecal incontinence was controlled effectively, and the incidence of fecal impaction was negligible. High reproducibility was observed with this method.

---

---

**O15-1 Prognosis after radical surgery for high intersphincteric fistula-in-ano: a retrospective study to highlight the importance of the conjoined longitudinal muscle detected by endoanal ultrasound**

Streaming  
Room3

**Authors:** Saburo Hisano, Shota Takano, Yoriyuki Tsuji, Kazutaka Yamada, Masahiro Takano

**Organisation:** Department of surgery, coloproctology center Takano hospital, Kumamoto, Japan

**Abstract:**

Purpose/Background: Incision and drainage through the external anal sphincter (EAS) may induce an iatrogenic complex anal fistula formation in cases with Parks' high intersphincteric abscesses because the conjoined longitudinal muscle (cLM) which exists between the internal and external anal sphincter prevents the abscess from extending externally into the ischiorectal space. Therefore, in this type of abscess or fistula, surgery should be done via the transanal approach. The aim of this study was to determine the efficacy of our radical procedure for high intersphincteric fistula (HIF). Methods/Interventions: Patients (n=60) with HIF who underwent radical surgery between March 2014 and January 2016 were enrolled in this study. Endoanal ultrasound (EAU) was performed and HIF was the diagnosis if the primary focus existed between the internal anal sphincter and cLM above the dentate line (DL). A primary opening was opened distally from DL to the anal verge skin, and then about 5-10mm of the proximal tract from the DL was opened to get adequate drainage from the more distant proximal tract. Results: Sixty percent of HIF cases extended to the puborectal muscle level. The median follow-up period was 69 days (range 19-709). A comparison of the preoperative and postoperative maximum resting pressure (MRP) and maximum squeeze pressure (MSP) was possible in 9 of the 60 cases. No significant difference was found in MRP (preop mean 119±15; postop 102±23cmH<sub>2</sub>O) and in MSP (preop mean 391±145; postop 368±136cmH<sub>2</sub>O). The reoperation rate for recurrence was 0. Conclusion/Discussion: It is important to understand the positional relationship between the primary focus and cLM to determine whether to operate via the transanal approach or through EAS.

---

---

**O15-2 A complex fistula in ano presenting with pelvic and retroperitoneal abscess treated by ligation of intersphincteric fistula tract: a case report**

Streaming  
Room3

**Authors:** Karuna Junmitsakul, Jirawat Pattana-Arun

**Organisation:** Division of Colorectal Surgery, Department of Surgery, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand

**Abstract:**

Anorectal abscess is a common problem in anorectal disease. Most patients develop fistula in ano after adequate drainage of the abscess. The management of fistula in ano depends on the type of fistula and sphincter function. Fistulotomy is the most successful of the surgical treatments for simple fistula but it is associated with postoperative incontinence due to division of anal sphincter. For complex fistula in ano, there are many options for the treatments. The main objectives for the treatment are to get rid of cryptoglandular infection, prevention of re-infection by close or lay open the internal opening, adequate drainage, and prevention of incontinence. The Ligation of Intersphincteric Fistula Tract (LIFT) was conducted in 2007 by Rojanasakul et al. This is a sphincter-preserving operation with high healing rate and good anal continence.

In this study we present our experience in a case of complex fistula in ano presented with perianal, pelvic, and retroperitoneal abscess treated with incision and drainage from another hospital for two years. The MRI showed posterior high trans-sphincteric fistula with horseshoe abscess with supralevator extension of abscess cavity into pelvic and retroperitoneal space. The patient was referred to our hospital and treated by Ligation of Intersphincteric Fistula Tract (LIFT), curettage of the distal fistula tract, and tube drain placement. Postoperative period showed no complications. The patient was discharged with tube drain on the first postoperative day. In the follow-up, good surgical wound healing, no recurrent fistula, and no anal incontinence was observed. Postoperative MRI showed resolution of abscess and active fistula tract.

---

---

**O15-3 LE-ALTA combination method for hemorrhoids**Streaming  
Room3

**Authors:** Satoka Nasu, Hiromi Murase, Syunsuke Motegi, Taro Tanabe, Takashi Fujimoto, Emi Yamaguchi, Takuya Nakada, Risa Nishio, Daisuke Okada, Satomi Furukawa, Kinya Okamoto, Tetsuo Yamana

**Organisation:** Coloproctology Center, Tokyo Yamate Medical Center, Tokyo, Japan

**Abstract:**

(Introduction) Hemorrhoids can be treated by various kinds of surgical procedures. Originally, the treatment strategy for hemorrhoids at our facility is Ligation and Excision (LE) which is the most effective procedure with the lowest recurrence rate. Recently, the effectiveness of ALTA (Aluminum potassium sulfate and tannic acid) sclerotherapy has been reported. We started trying hemorrhoidectomy with ALTA injection on the purpose of lowering the risk of operative complications while keeping its curability. This combination method at our facility involves mainly LE, followed by ALTA injection supplementary. Having had satisfying results, now we report it here. (Patients and Methods) We retrospectively reviewed the results of 1634 patients with LE-ALTA combination method by collecting the data from the medical records, focusing on the rate of recurrence and complications between January 2006 and December 2019. (Results) The recurrence was observed in 17 (1.0%) patients, secondary hemorrhage in 12 (0.7%) patients. No anal stenosis, or adverse events related to ALTA was observed. (Conclusion) LE (mainly)-ALTA (supplementary) combination method is the procedure which makes the risk of operative complications lower while keeping its curability.

---

**O16-1 Bowel habits and gender correlate with proximal colon length measured by CT colonography: *post hoc* analysis**

Streaming  
Room 2

**Authors:** Kazutomo Togashi<sup>1</sup>, Kenichi Utano<sup>1</sup>, Koichi Nagata<sup>2</sup>, Tetsuro Honda<sup>3</sup>, Takashi Kato<sup>4</sup>, Alan Kawarai Lefor<sup>5</sup>

**Organisation:** <sup>1</sup>Dept. of Coloproctology, Aizu Medical Center Fukushima Medical University, Fukushima, Japan; <sup>2</sup>Div. of Screening Technology, Center for Public Health Sciences, National Cancer Center; <sup>3</sup>Dept. of Gastroenterology, Nagasaki Harbor Medical Center; <sup>4</sup>Dept. of Internal Medicine, Hokkaido Gastroenterology Hospital; <sup>5</sup>Dept. of Surgery, Jichi Medical University

**Abstract:**

**Background:** Colonoscopists recognize that bowel habits correlate with colon length. CT colonography (CTC) enables three-dimensional measurement of colon length. The aim of this study is to investigate the factors associated with colon length. **Methods:** Data obtained from a previous multi-center trial including subjects with positive fecal immunochemical testing who underwent CTC were reviewed. After excluding patients with poor bowel preparation, a history of bowel resection or advanced cancer, 295 subjects (mean age 58.1±11.1 years; female 141, male 154) were enrolled. Colon length was measured using a computer-generated center line of the colorectum and was divided at the iliac crest level into the distal and proximal colons. Bowel habits were classified into three groups: A- daily; B- once every two or three days; and C- less than once in three days. Statistical comparison was made using one-way ANOVA with Bonferroni correction. **Results:** The entire colon (cm, mean ± standard deviation) measured 147.4±17.9 in group A, 154.7±18.5 in group B and 158.6±18.3 in group C, and significant differences were observed in “A vs. C” (p=0.002) and “A vs. B” (p=0.014). The female colon is longer than the male colon (154.3±18.1 vs. 147.1±18.3; p=0.022). Colon length showed trends associated with age (p=0.18) and a history of laparotomy (p=0.14). In subgroup analysis by colon segment, the proximal colon trended similarly to the entire colon while there were no trends in the distal colon. The proximal colon in group A was significantly shorter than in group C (p=0.001). The female proximal colon is significantly longer than the male proximal colon (p=0.0003). **Conclusions:** Bowel habits and gender correlate with colon length, in particular, the proximal colon, measured by CTC.

---

**O16-2 Postoperative rectovaginal fistula treated successfully by laparoscopic surgery using trans anal TME**

Streaming  
Room 2

**Authors:** Miki Soeda, Madoka Hamada, Yuki Matsui, Fusao Sumiyama, Terufumi Yoshida, Toshinori Kobayashi, Yuki Matsumi, Hisanori Miki, Mitsugu Sekimoto

**Organisation:** Surgery, Kansai Medical University, Osaka, Japan

**Abstract:**

**Introduction**

we present three cases of RVF treated successfully using trans anal TME (taTME) and laparoscopic technique.

**Materials and Methods**

Case 1: 70F. Middle rectal cancer; pT3N1aM0pStage IIIb. The RVF was detected after laparoscopic low anterior resection with double stapling technique (lap LAR DST). The fistulectomy followed by colo-anal anastomosis with diverting stoma and primary repair of the vaginal wall covered by omental patch was performed under laparoscopically using TaTME at 21 months after primary surgery.

Case 2: 67F. Middle rectal cancer; pT1bN0M0pStage I. The RVF was detected 2 months after lap LAR DST. The fistulectomy followed by colo-anal anastomosis with diverting stoma and primary repair of the vaginal wall was performed under laparoscopically using TaTME at 26 months after primary surgery.

Case 3: 54F. Low rectal GIST was treated with a trans anal local resection. RVF was noted on the fifth post-operative day after surgery and transverse colostomy was constructed. The fistulectomy followed by colo-anal anastomosis with diverting stoma and primary repair of the vaginal wall covered by omental patch was performed under laparoscopically using TaTME at 15 months after primary surgery. Closure of diverting stoma in these patients was performed successfully.

**Discussion**

The concept of RVF surgical treatment in our institute are 1) fistulectomy, 2) separation of rectal and vaginal fistula reconstruction, and 3) filling with an omental patch if the separation is insufficient.

**Conclusions**

The RVF repair with LAP surgery using taTME successfully met our concept for the treatment of the postoperative RVF.

---

---

**O16-3 Low anterior resection syndrome post laparoscopic transanal total mesorectal excision (TaTME) vs robotic TME**

Streaming  
Room 2

**Authors:** Kaori Futaba<sup>1</sup>, Wing Wa Leung<sup>1</sup>, Cherry Wong<sup>1</sup>, Janet Lee<sup>2</sup>, Simon Ng<sup>1</sup>, Tony Mak<sup>1</sup>

**Organisation:** <sup>1</sup>Surgery, Chinese Univeristy of Hong Kong, Shatin, N.T., Hong Kong; <sup>2</sup>Surgery, Prince of Wales Hospital

**Abstract:**

**Introduction:**

Low Anterior Resection Syndrome (LARS) after low rectal cancer surgery is associated with negative impact on their quality of life. The cause of LARS is often multifactorial including post neoadjuvant chemoradiotherapy, height of anastomosis, reduction in volume of the neo-rectum and disruption of rectal innervation. Currently the optimal surgery to prevent LARS is unknown with speculation that robotic surgery may offer better functional outcome from preservation of nerves than transanal total mesorectal excision (TaTME) where it may induce intra-operative neuromuscular sphincter damage by endoanal instrumentation.

**Method:** Prospective study assessing LARS scores post closure of diversion stoma for patients who had undergone Laparoscopic TaTME and Robotic TME since January 2016.

**Results:** 48 patients (37 TaTME, 11 robotic) have completed their 12 months follow-up. 19/37 TaTME and 5/11 Robotic TME cases received neoadjuvant chemoradiotherapy. 78.3% of TaTME and 90.9% Robotic TME cases suffered major LARS at 4 months. 62.1% of TaTME and 81.8% of Robotic TME cases still suffered major LARS at 12months. Fisher exact test statistic value was 0.293.

**Conclusion:** This study demonstrated that in both techniques the majority of patients suffered major LARS post TME. However there was no significant difference between laparoscopic TaTME and Robotic TME groups.

---

---

**O16-4 Long-term outcomes of the conservative treatment package of solitary rectal ulcer syndrome**

Streaming  
Room 2

**Authors:** Worawarn Worasawate, Sukit Pattarajierapan, Supakij Khomvilai, Jirawat Patana-Arun

**Organisation:** Department of colorectal surgery, King Chulalongkorn Memorial Hospital, Chulalongkorn University, Bangkok, Thailand

**Abstract:**

**Background:** The treatment of solitary rectal ulcer syndrome (SRUS) usually begins with conservative treatment package, including high-fiber diet, laxative, Kegel exercises, and ceasing anal digitation, but the effectiveness is still controversial. Previous studies assessed the efficacy of conservative treatment using a subjective self-constructed questionnaire that is not yet validated. Recently, the obstructed defecation syndrome (ODS) score was validated for grading the severity and monitoring the treatment efficacy. This study aims to report the long-term functional outcomes of the patients with SRUS using the ODS score questionnaire before and after conservative treatment.

**Materials and methods:** Using a prospectively maintained database, all patients with SRUS, confirmed by pathology at King Chulalongkorn Memorial Hospital from January 2013 to December 2019, were identified. The patient's data were obtained from electronic medical records. To assess the functional outcomes, we documented the symptoms before and after treatment using the ODS score questionnaire by single investigator using a retrospective survey.

**Results:** There were 118 patients with SRUS during the study period. Initially, all patients were treated with conservative treatment package. Only 10 of 118 patients (8.4%) were finally operated because of 6 worsening obstructed defecation, 2 worsening rectal prolapses, and 2 rectal stricture. The ODS score, pre-treatment compared with post-treatment, significantly improved from 8.1 to 4.4 ( $P < 0.001$ ) for the patients with successful conservative treatment. Median follow-up time was 33.8 months.

**Conclusion:** Most of the patients with SRUS could be successfully treated with conservative treatment package with significantly improved functional outcome.

---

---

**O17-1 Undesired permanent ileostomy after ileal-pouch anal anastomosis for ulcerative colitis, which was associated with pouch fistula**Streaming  
Room 2

**Authors:** Shinnosuke Uegami, Norimitsu Shimada, Kosuke Yoshimura, Yusuke Watadani, Kenichiro Uemura, Hiroki Ohge, Shinya Takahashi

**Organisation:** Department of Surgery, Hiroshima University, Hiroshima, Japan

**Abstract:**

**[Purpose]** Restorative proctocolectomy and ileal-pouch anal anastomosis (IPAA) is standardized technique. However, some cases had needed permanent ileostomy for pouch related complications. The aim of this study was to determine the risk of the permanent ileostomy after restorative proctocolectomy.

**[Method]** Two hundred and twenty four patients with ulcerative colitis who underwent restorative proctocolectomy with IPAA between 2000 and 2018 were retrospectively analyzed. Mucosectomy, hand sewn anastomosis and temporary diversion ileostomy were performed for all cases. Main outcome was the rate of permanent ileostomy after surgery, and secondary outcome was to detect the risk factors of permanent ileostomy.

**[Result]** In 224 patients, included 131 male (58%), the indications of surgery were the refractory of medication (n=169), cancer or high grade dysplasia (n=43), and stricture disease (n=12). During median 75 (30 - 138) follow up months, 13 patients (5.8%) needed the permanent ileostomy. The cumulative risk of the permanent ileostomy was 3.38% at 5 years, and 6.4% at 10 years. The main reasons for permanent ileostomy were the pelvic abscess with pouch fistula in 5 patients and perianal abscess in 2 patients. By logistic regression analysis, three risk factors, preoperative steroid use (p=0.012), the pouch fistula just after IPAA (p< 0.001) and perianal abscess (p= 0.018), were detected. Sub-analysis about pouch fistula found that preoperative biological agents use was the risk factor (p=0.04).

**[Conclusion]** In this study, the rate of the permanent ileostomy after IPAA was low, but 5.8% patients needed the permanent ileostomy. To avoid the permanent ileostomy, 3-staged procedure may be feasible strategy for patients received preoperative steroid or biological therapy.

---

---

**O17-2 Genomic landscape of early-stage ulcerative colitis-associated neoplasia in the Japanese population**Streaming  
Room 2

**Authors:** Kenta Matsumoto<sup>1</sup>, Yuji Urabe<sup>2</sup>, Shiro Oka<sup>1</sup>, Katsuaki Inagaki<sup>1</sup>, Hidenori Tanaka<sup>1</sup>, Ryo Yuge<sup>3</sup>, Ryohei Hayashi<sup>3</sup>, Yasuhiko Kitadai<sup>4</sup>, Koji Arihiro<sup>5</sup>, Fumio Shimamoto<sup>6</sup>, Shinji Tanaka<sup>3</sup>, Kazuaki Chayama<sup>1</sup>

**Organisation:** <sup>1</sup>Department of Gastroenterology and Metabolism, Hiroshima University Hospital, Hiroshima, Japan; <sup>2</sup>Division of Regeneration and Medicine Center for Translational and Clinical Research, Hiroshima University Hospital, Hiroshima, Japan; <sup>3</sup>Department of Endoscopy, Hiroshima University Hospital; <sup>4</sup>Department of Health Sciences, Prefectural University of Hiroshima; <sup>5</sup>Department of Anatomical Pathology, Hiroshima University Hospital; <sup>6</sup>Faculty of Health Sciences, Hiroshima Shudo University

**Abstract:**

**Background and Aims:** Ulcerative colitis (UC)-associated cancers, developing from the UC mucosa, include both colitic and sporadic cancers. Although several genomic analyzes of invasive colitis-associated cancer (CAC) have been reported, the early-stage genomic alterations involved in the onset of colitic cancer have been unclear. To address this, we performed genomic analysis of early-stage UC-associated neoplasia (UCAN).

**Methods:** We extracted DNA from 36 early-stage UCANs (T1 cancer, 10; and dysplasia, 26) from 32 UC patients and performed targeted sequencing of 43 UC-associated genes, which was compared to sequencing data from the Cancer Genome Atlas-Colorectal Cancer (TCGA-CRC) and the Japanese invasive CAC.

**Results:** The most frequently mutated gene in our UCAN was APC (mutated in 47.2% of our cohort), followed by TP53 (44.4%), KRAS (27.8%), and PRKDC (27.8%). Although the TP53 mutations in TCGA-CRC were dispersed throughout the gene, those in our UCAN were concentrated in the amino terminal part of the DNA-binding domain. Moreover, none of the TP53 mutations in our UCAN occurred at any of the hotspot codons. Interestingly, the mutations in KRAS and TP53 were mutually exclusive in UCAN, and UCANs with KRAS mutations had histologically-serrated lesions in the gland duct. Mayo endoscopic subscore was significantly higher in TP53 mutated UCANs and significantly lower in KRAS mutated UCANs.

**Conclusions:** Our findings suggest that early-stage UCAN can be classified into 2 groups: those develop through the carcinogenic pathway via TP53 mutations and those develop through the carcinogenic pathway via KRAS mutations.

---

**O17-3 Hematologic indices as surrogate markers for 6-thioguanine nucleotides in inflammatory bowel disease**Streaming  
Room 2

**Authors:** Masasto Aizawa<sup>1</sup>, Kenichi Utano<sup>1</sup>, Daiki Nemoto<sup>1</sup>, Noriyuki Isohata<sup>1</sup>, Shungo Endo<sup>1</sup>, Alan K Lefor<sup>2</sup>, Kazutomo Togashi<sup>1</sup>

**Organisation:** <sup>1</sup>Department of Coloproctology, Fukushima Medical University Aizu Medical Center, Fukushima, Japan; <sup>2</sup>Department of Surgery, Jichi Medical University

**Abstract:**

**Background:** Thiopurine is a key drug in inflammatory bowel disease (IBD). The effect and risk of adverse events are associated with intracellular levels of 6-thioguanine nucleotides (6-TGN). Hematologic indices (mean corpuscular volume, MCV; white blood cell count, WBC) are proposed as surrogate markers for therapeutic monitoring, but empirical data are lacking. This study aimed to investigate the relationship between 6-TGN levels and hematologic indices. **Methods:** Between May 2013 and October 2019 in one institution, 30 patients with IBD (ulcerative colitis 21, Crohn's disease 9) receiving administration of thiopurines were reviewed. Levels of 6-TGN (therapeutic range 235-450 pmol/8×10<sup>8</sup>RBC) were measured and relationship between 6-TGN levels and MCV, ΔMCV, WBC and ΔWBC analyzed. **Results:** The 6-TGN levels were measured at 65 time-points, of which 30 were also administrated allopurinol. Correlation coefficients between 6-TGN levels and each factor were low (MCV 0.229, ΔMCV 0.220, WBC 0.131, ΔWBC 0.160). Classifying 6-TGN levels into "below therapeutic range: <235", "within therapeutic range", and "above therapeutic range: >450", showed median MCV values of 90.3, 93.1, 97.9, respectively. MCV trended above the therapeutic range ("below"+"within" 92.3 vs. "above" 97.9, p=0.069). ΔMCV values were 3.1 in "below", 1.7 in "within", and 7.8 in "above", with similar results ("below"+"within" 1.75 vs. "above" 7.8, p=0.035). This tendency was not observed for WBC or ΔWBC. Patients receiving combination therapy with allopurinol had significantly higher 6-TGN levels (combination 442 vs. mono 295, p=0.0009). **Conclusions:** MCV / ΔMCV may be a surrogate marker to alert for 6-TGN levels above the therapeutic range. Allopurinol affects 6-TGN levels.

**O17-4 Clinical evidence for the effectiveness and safety of tofacitinib in patients with ulcerative colitis**Streaming  
Room 2

**Authors:** Masato Aizawa<sup>1</sup>, Naoki Yoshimura<sup>2</sup>, Minako Sako<sup>2</sup>, Alan K Lefor<sup>3</sup>, Kazutomo Togashi<sup>1</sup>

**Organisation:** <sup>1</sup>Department of Coloproctology, Fukushima Medical University Aizu Medical Center, Fukushima, Japan; <sup>2</sup>Department of Internal Medicine, Division of IBD, Tokyo Yamate Medical center; <sup>3</sup>Department of Surgery, Jichi Medical University

**Abstract:**

**Background:** Tofacitinib (TOF) is effective for induction and maintenance of remission in patients with moderate-to-severe active ulcerative colitis (UC). We investigated the clinical efficacy and safety of TOF in UC patients. **Methods:** In a high-volume center from June 2018 to August 2019, 71 patients with UC (mean age 42 years, range 17-73; moderate activity 67, severe 4) receiving induction therapy with TOF were evaluated. Fifty-seven (80%) patients were refractory to anti-TNF $\alpha$  or vedolizumab, and 14 (20%) were bio-naïve patients. TOF was started at 20mg/day and reduced to 10mg/day at week 8 and continued as maintenance therapy. The primary outcome was the efficacy of induction therapy at weeks 2, 8 and 24. Efficacy was evaluated based on partial Mayo (p-Mayo) and rectal bleeding scores. **Results:** TOF therapy resulted in complete response in 24 (34%), partial response in 21 (30%) and no response in 25 (35%) patients. Mean p-Mayo score at the time of induction was  $5.8 \pm 1.1$  which significantly decreased to  $3.5 \pm 2.3$  ( $p < 0.01$ ) at week 2 and further decreased to  $2.3 \pm 1.9$  ( $p < 0.01$ ) at week 8. Nineteen (79%) patients with complete response at week 2 finally achieved complete remission. Partial/complete response rates were 64% in moderate UC and 50% in severe UC. Partial/complete response rates were 63% in patients refractory to anti-TNF $\alpha$  and 64% in bio-naïve patients. Of 25 patients followed for up to 24 weeks, 8 (32%) relapsed. Among them, 4 patients were able to achieve remission with re-escalation of TOF. All were mild with no serious adverse events occurring. **Conclusion:** TOF may be effective in patients with refractory UC who received biologic agents, as well as in bio-naïve patients. And the response status at 2 weeks may be a predictor of future remission.

**O18-1 The deep learning prediction of pouchitis after receiving ileal pouch-anal anastomosis in patients with ulcerative colitis**

Streaming  
Room 2

**Authors:** Shodai Mizuno, Koji Okabayashi, Kohei Shigeta, Ryo Seishima, Shinpei Matsui, Taketo Sasaki, Masayoshi Monno, Masayo Ogiri, Yujin Kato, Yuka Koseki, Yuko Kitagawa

**Organisation:** Department of Surgery, Keio University Hospital, Tokyo, Japan

**Abstract:**

**PURPOSE:** Pouchitis is one of the major postoperative complication of ulcerative colitis (UC). Although several risk factors of pouchitis have been reported, it is still difficult to predict the development of pouchitis after ileal pouch-anal anastomosis (IPAA) in UC patients. In this study, it was examined whether deep learning (DL) model could predict the development of pouchitis.

**METHODS:** This study included 43 UC patients who underwent two staged restorative proctocolectomy with IPAA between 2012 and 2018. A total of 860 endoscopic images before stoma closure were collected. Modified pouchitis disease activity index (mPDAI) was evaluated at the first time of endoscopy after stoma closure. Pouchitis was defined as mPDAI  $\geq$  5. Convolutional Neural Network was used as DL model and the accuracy was analyzed by 5 folds cross validation.

**RESULTS:** Among all 43 patients, the median age was 44 (14-70) years and 24 (56%) were male. Pouchitis was occurred in 14 (33%) patients after stoma closure. There was no significant difference in mPDAI before stoma closure between patients with pouchitis and those without pouchitis ( $p=0.183$ ). All collected images were categorized into two groups; occurrence of pouchitis (33% (n=280)) or not (67% (n=580)). In the DL model, the average of training accuracy was 99.85% and the average of validation accuracy was 99.53%.

**CONCLUSIONS:** This study found that DL model could predict pouchitis with high accuracy. In the future, this method would help predicting pouchitis in clinical practice and could prevent the occurrence of pouchitis.

**O18-2 Long-term outcome after sphincter-preserving surgery for perianal fistulae with Crohn's disease in the era of anti-TNF agents**

Streaming  
Room 2

**Authors:** Yusuke Watadani, Hiroki Ohge, Shinnosuke Uegami, Norimitsu Shimada, Kosuke Yoshimura, Kenichiro Uemura, Yoshiaki Murakami, Shinya Takahashi

**Organisation:** Department of Surgery, Hiroshima University, Hiroshima, Japan

**Abstract:**

**Purpose:** To evaluate long-term outcome after sphincter-preserving surgery for perianal fistulae with Crohn's disease with and without subsequent anti-TNF agents.

**Methods:** Fifty nine patients who underwent sphincter preserving procedures for perianal abscess and fistulae with Crohn's disease at Hiroshima University Hospital from 2006 through 2016 were enrolled. Patient demographics, type of fistula, type of surgical procedure, and combined medical therapy including anti-TNFs, were retrospectively reviewed. The recurrence of perianal sepsis requiring surgery and / or diversion were compared between with and without subsequent anti-TNFs.

**Results:** The analysis included 46 men and 13 women with a median age of 30 years. The median postoperative follow up periods was 40 months. The type of fistula was classified as simple (66.1%) or complex (33.9%). A non-cutting seton placement with drainage was performed in the majority of cases (79.7%). Anti-TNFs were administered in 12 patients (20.3%) before surgery, and 32 patients (54.2%) received anti-TNFs after surgery. Loss of response to anti-TNFs were observed in 16 patients (50.0%) during post-operative follow up periods. There was no difference in the background factors between with and without postop anti-TNFs group. The 5-year recurrence rate of perianal sepsis requiring surgery was 34.5% with postop anti-TNFs, and 54.7% without postop anti-TNFs, which was statistically not significant (log-rank test,  $p = 0.17$ ).

**Conclusion:** Anti-TNF agents did not affect the recurrence of perianal sepsis after surgery in the long-term follow up. A wide variety of medical management beyond appropriate surgery should be discussed for the treatment of perianal fistulae with Crohn's disease.

**O18-3 Colorectal cancer and dysplasia surveillance program for patients with inflammatory bowel disease**

Streaming  
Room 2

**Authors:** Daisaku Kuwahara, Masafumi Tanaka, Yasumitsu Saiki, Shota Takano, Mitsuko Fukunaga, Yasushi Nakamura, Hirotaka Hamada, Satoshi Tabuchi, Hidetomo Nishigori, Yasue Irei, Takafumi Suzuki, Yoriyuki Tsuji, Kazutaka Yamada, Masahiro Takano

**Organisation:** Department of Surgery , Coloproctology Center Takano Hospital, Kumamoto, Japan

**Abstract:**

[Introduction] The purpose of this retrospective study was to clarify the clinicopathological factors of carcinogenic cases associated with inflammatory bowel disease and to evaluate the efficacy of the surveillance program.

[Method] Patients who underwent curative surgery for ulcerative colitis (UC; n=91) and Crohn's disease (CD; n=240) from 1997 to 2017 were enrolled in this study and the clinicopathological factors were examined.

[Results] 1: There were 31 cases (34%) of UC with cancer/dysplasia (23 cases of cancer, 6 cases of high-grade dysplasia (HGD) and 2 cases of low-grade dysplasia (LGD). The average morbidity of the cancer/dysplasia cases was 14.2 years ( $p = 0.001$ ). The histological types of the 23 cases of cancer were well-differentiated adenocarcinoma (n=7), poorly differentiated adenocarcinoma (n=9), and mucinous carcinoma (n=7). There were 2 cases of LGD, 5 cases of HGD, and 7 cases in stage I in the surveillance group and 2 cases in stage I, 2 cases in stage II, 11 cases in stage III, and 2 cases in stage IV in the non-surveillance group.

2: Among the 240 patients who underwent CD surgery, 8 patients had anal fistula cancer, 2 had small bowel cancer, and 2 had rectal and anal canal cancer. Changes in clinical symptoms (analgia and drainage) were observed in all cases of anal fistula cancer at the time of detection. Mean age was significantly lower in cases with anal fistula cancer (45 years).

[Conclusion] Early detection in the surveillance group improved the prognosis for many of the cases. Patients with CD for 10 or more years need to be careful of canceration, especially for anal fistula cancer, and therefore it is important to regularly measure tumor markers, conduct image diagnosis (i.e. pelvic MRI), and to confirm the changes in clinical symptoms.

---

**P1-1 Laparoscopic resection following decompression with a drainage tube for obstructive colorectal cancer in elderly patients**

**Authors:** Yoshinori Kagawa, Kenji Kawai, Taishi Hata, Takuya Sakamoto, Kohei Murakami, Yoshiteru Katsura, Yoshiaki Omura, Toru Masuzawa, Atsushi Takeno, Yutaka Takeda, Kohei Murata

**Organisation:** Department of Surgery, Kansai Rosai Hospital, Hyogo, Japan

**Abstract:**

**Background:** Around 40% of older patients with CRC present as emergencies with obstruction and/or perforation, leading to higher rates of palliative surgery. In older patients, laparoscopic-assisted colectomy has shown advantages compared with conventional open surgery. These include lower stress, higher rate of independence after surgery, quicker return to prior activities and lower cost. This study investigated the safety and short- and long-term results of laparoscopic resection following decompression with a transanal or transnasal drainage tube. **Methods:** Thirty-one cases of obstructive CRC aged  $\geq 80$  years (older group) and 50 cases aged  $\leq 79$  years (younger group) underwent surgery at our hospital from 2011 to 2017. We compared short- and long-term outcomes of treatment strategies for obstructive CRC in these two groups. **Results:** The median ages in the younger and older groups were 62 (39-79) and 85 (80-94) years old. The success rates of decompression were 86.7% in younger group and 89.7% ( $P=0.23$ ) in older group. In cases in which decompression was possible, the laparoscopic operation rates in the younger and older groups were 89.4% and 94.4% ( $P=0.13$ ). The rates of anastomotic leakage were 4.5% and 2.4% ( $P=0.35$ ). There were no deaths within 30 and 90 days after surgery in the two groups. The relapse free survival rates were 72% and 68% for Stage II cancer ( $P=0.27$ ), 68% and 59% for Stage III cancer ( $P=0.15$ ). The median overall survival were 60.4 and 50.3 months in Stage II ( $P=0.21$ ), 56.3 and 40.2 months in Stage III ( $P=0.09$ ), and 18.7 and 10.9 months in Stage IV ( $P=0.07$ ), respectively. **Conclusions:** Laparoscopic resection after decompression with a drainage tube was performed feasibly and safely in older patients with similar results to those in younger patients.

---

---

**P1-2 Comparison self-expandable metallic stent and trans-anal decompression tube for obstructive colorectal cancer**

**Authors:** Taiki Masuda, Sono Ito, Fukuichiro Orita, Hideaki Iseki

**Organisation:** Department of Surgery, Tokyo Metropolitan Hiroo Hospital, Tokyo, Japan

**Abstract:**

**Introduction:** Recently, Self-Expandable Metallic Stent (SEMS) are used in Japan as alternative to colonic decompression to avoid emergency surgery for obstructive colorectal cancer (OCRC), as bridge to surgery (BTS) approach. However, concerns about long-term prognosis have been reported. **Purpose:** To compare the outcomes of patients receiving preoperative SEMS placement with those of patients who were managed by preoperative lavage using Trans-anal Decompression Tube (TDT). **Methods:** SEMS and TDT results were retrospectively compared in patients who underwent alternatives to emergency surgery for OCRC at our hospital. A total of 42 patients with stage II-III OCRC underwent SEMS (n=17) or TDT (n=25) placement between April 2006 and March 2017. The patients included 25 males and 17 females in age range of 46 to 92 years. **Results:** Significant difference were found between SEMS(95.8%) and TDT(66.%) in clinical success rates. There was no differences in age, sex, ASA score, stage and preoperative waiting period between SEMS and TDT. Half of the patients with SEMS were temporarily discharged. Primary resection was performed on the all patient. No significant differences were found between SMES and TDT in operation time, blood loss, anastomosis rate, duration of hospitalization. The incidence of postoperative complication between those groups did not differ significantly. There was no significant difference in three years recurrence-free survival rate between the two groups(SEMS: 76%, TDT:71%). **Conclusion:** Safety and usefulness of SEMS were comparable to those of TDT and allowed patients to resume oral intake and temporarily discharged. The short and middle-term outcomes in this study indicate that SEMS could become a first-choice treatment for OCRC.

---

---

**P1-3 Angiopoietin-2 as a prognostic factor in patients with incurable stage IV colorectal cancer**

**Authors:** Ryoichi Tsukamoto, Shinya Munakata, Hisashi Ro, Rina Takahashi, Yu Okazawa, Masaya Kawai, Kiichi Sugimoto, Makoto Takahashi, Yutaka Kojima, Atsushi Okuzawa, Yuichi Tomiki, Kazuhiro Sakamoto

**Organisation:** Department of Coloproctological Surgery, Juntendo University Faculty of Medicine, Tokyo, Japan

**Abstract:**

**Purpose** Angiopoietin (Ang), a ligand of the endothelium-specific receptor Tie-2 system, is associated with tumor growth and progression that depend on angiogenesis. The present study aimed to investigate the predictive potential of angiopoietin factors in incurable stage IV colorectal cancer (CRC) patients who have undergone primary tumor resection.

**Methods** The study included 40 consecutive patients with incurable stage IV CRC who underwent primary tumor resection at our hospital between 2011 and 2015. Patients were divided into subgroups of low and high Ang-1, Ang-2, and Tie-2. Patient age and sex, tumor location, TNM stages, vascular invasion, chemotherapy, and overall survival were assessed.

**Results** The cut-off values of Ang-1, Ang-2, and Tie-2 were 0.4, 1.8, and 15.0 ng/mL, respectively. Overall survival was significantly longer in the low Ang-2 group than in the high Ang-2 group. High Ang-2 levels were associated with age, N stage, and chemotherapy. Immunofluorescent staining of Ang-2 revealed that endothelial cells and cancer cells expressed Ang-2 in each case.

**Conclusions** Our findings suggest that the serum Ang-2 level is associated with disease progression and is an important predictor of mortality in incurable stage IV CRC patients. Thus, it may be a useful prognostic biomarker in these patients.

---

---

**P1-4 Distribution of neuroendocrine marker-positive cells in colorectal cancer tissue and adjacent mucosa**

**Authors:** Takashi Ogimi, Chin Ryofu, Hiroshi Miyakita, Kazutake Okada, Seiichiro Yamamoto

**Organisation:** Department of Surgery, Tokai University, Kanagawa, Japan

**Abstract:**

**Background:** Neuroendocrine carcinoma (NEC) is a rare disease and has been reported to most frequently arise in the right side of the colon. To clarify the histogenesis of NEC, we attempted to detect neuroendocrine marker-positive cells in cancer tissue and in the adjacent mucosa in patients with adenocarcinoma.

**Methods:** The study group comprised 390 patients with Stage II or III colorectal adenocarcinoma between 2007 and 2012. Immunostaining was performed with anti chromogranin A, synaptophysin, and CD56 antibodies. Cases with positively stained cells in cancer tissue were defined as positive. In the adjacent mucosa, the numbers of positive cells per 15 HPF were measured.

**Results:** Tumor location was right side in 181 patients, left side in 173, and the rectum in 36 patients. Positive rates of Chromogranin A in cancer tissues were 23.7% in the right colon, 13.2% in the left colon, and 19.4% in the rectum. Those of synaptophysin were 35.3%, 21.9%, and 30.6%, respectively. Those of CD56 were 22.6%, 8.0%, and 16.7%, respectively. In the adjacent mucosa, the mean numbers of positive cells for chromogranin A were  $62.2 \pm 20.5$  in the right colon,  $131.9 \pm 44.7$  in the left colon, and  $243.7 \pm 60.2$  in the rectum ( $p < 0.001$ ). Those for synaptophysin were  $47.7 \pm 23.5$ ,  $95.3 \pm 35.1$ , and  $156.9 \pm 56.8$ , respectively. ( $p < 0.001$ ).

**Conclusions:** In cancer tissue, the rate of positive staining for neuroendocrine marker-positive cells was higher in the right side of the colon, whereas in normal mucosa the rates of positive staining for these cells were higher in the sigmoid colon and the rectum. These results suggest that neuroendocrine marker-positive cells are an acquired characteristic of cancer tissue.

---

---

**P1-5 Efficacy of preoperative chemical bowel preparation for surgical site infection after surgery for colorectal cancer in patients with diabetes mellitus and obesity**

**Authors:** Yutaka Hattori, Masahiro Yamane, Ayaka Ito, Fumi Shigehara, Takumi Hikawa, Sachiyo Kawamura, Jumpei Takashima, Kenji Yamazaki, Fumihiko Miura, Keizo Taniguchi, Noriyuki Matsutani, Hirotooshi Kobayashi

**Organisation:** Department of surgery, Teikyo University Hospital, Mizonokuchi, Kanagawa, Japan

**Abstract:**

Background: Since surgical site infection (SSI) is a frequent postoperative complication of colorectal cancer, the prevention of SSI is required. We started the mechanical bowel preparation (MBP) with oral antibiotics bowel preparation (OABP) in 2019. Kanamycin (KM) and metronidazole (MNZ) are administered on the day before surgery. We retrospectively investigated the efficacy of OABP with KM+MNZ for preventing SSI in colorectal cancer surgery. Method: We compared the incidence of SSI with and without OABP between open and laparoscopic groups. The patients who underwent surgery for colorectal cancer between January 2015 and December 2019 were enrolled. We also compared the incidence of SSI in diabetic (DM) and obese (BMI  $\geq 25$ ) patients. Results: The number of enrolled patients was 242. The overall SSI rate was 4.1% (10/242). None of 43 patients in the OABP group had SSI. Ten out of 199 patients (5.0%) in the MBP group had SSI ( $P=0.13$ ). There were 23 patients with open surgery, and SSI rates were 0% (0/2) in the OABP group and 4.7% (1/21) in the MBP group ( $P=0.76$ ). In 219 patients with laparoscopic surgery, SSI rates were 0% (0/41) in the OABP group and 5.0% (9/178) in the MBP group ( $P=0.14$ ). SSI occurred in 4.5% (3/66) of the patients with DM and 4.0% (7/176) of the patients without DM ( $P=0.84$ ). SSI occurred in 8.7% (4/46) of the obese patients and 3.1% (6/196) of the non-obese patients ( $P=0.084$ ). Among obese patients, SSI rates were 0% (0/10) in the OABP group and 11% (4/36) in the MBP group ( $P=0.27$ ). Conclusion: The incidence of SSI in the OABP group tended to be lower than that in the MBP group. The incidence of SSI tended to be higher in obese patients. OABP for colorectal cancer surgery may be useful in reducing the incidence of SSI, especially in obese patients.

---

---

## P2-1 Surgical strategies and outcomes for duodenal-invasive colon cancer

**Authors:** Ikuma Shioi, Hitoshi Hino, Akio Shiomi, Hiroyasu Kagawa, Yusuke Yamaoka, Shoichi Manabe, Shunichiro Kato, Marie Hanaoka, Kai Chen, Kentaro Saito, Chikara Maeda, Tadahiro Kojima, Kenji Nanishi, Yusuke Tanaka, Shunsuke Kasai

**Organisation:** Division of Colon and Rectal Surgery, Shizuoka Cancer Center, Shizuoka, Japan

**Abstract:**

**Aim:** To evaluate the surgical strategies and outcomes of patients with duodenal-invasive colon cancer.

**Method:** From September 2002 to December 2019, twelve patients who underwent duodenal resection for primary colon cancer were retrospectively reviewed.

**Results:** The twelve patients were 5 men and 7 women with median age of 67 years. The primary lesion of tumor was ascending colon, transverse colon, and cecum in 6, 4 and 2 patients, respectively. Synchronous metastasis was observed in 4 patients. Ten patients were preoperatively suspected to have duodenal invasion. The degrees of the duodenal resections were as follows; Five patients resected the muscular layer or less; Four patients underwent partial resection of the duodenum; Two patients underwent pancreas-sparing duodenectomy (PSD); And two patients underwent pancreaticoduodenectomy (PD). Clavien-Dindo grade 2 or 3 complication was observed in the patient after PSD or in both patients with PD, respectively. No major complication was observed in patients after partial resection of the duodenum or less. Pathological duodenal invasion was confirmed in 5 patients, including one patient who only had serosal resection. All patients had complete resection of cancer without any residual lesion.

**Conclusion:** Surgical strategies for patients with duodenal-invasive colon cancer may vary between cases. Surgeons must choose an appropriate procedure to achieve complete resection and to avoid operative complication.

---

---

**P2-2 The short-term prognosis of colorectal cancer surgery for the elderly (over 80 years old)**

**Authors:** Tomokazu Kishiki, Koichiro Kojima, Nobuyoshi Aso, Aiko Iioka, Takashi Wakamatsu, Shun Ishii, Satoshi Isobe, Tadahiko Masaki, Eiji Sunami

**Organisation:** Department of Surgery, University of Kyorin, Tokyo, Japan

**Abstract:**

**Background**

When deciding the treatment policy for elderly patients with colorectal cancer (CRC), it may be difficult to select an operation method based on comorbidities and general condition.

**Purpose**

To clarify the differences in surgical procedure selection and postoperative short-term prognosis between elderly and non-elderly patients with CRC.

**Method**

998 patients of CRC who underwent surgery at Kyorin University hospital from Jun 2013 to Dec 2017 were analyzed.

All cases were divided into elderly patients group (80 years old and over) and non-elderly patients group (under 80 years old).

In addition, GPS score was composed of C-reactive protein (CRP) ( $\leq 1.0$  /  $> 1.0$  mg/dl) and albumin ( $< 3.5$  /  $\geq 3.5$  g/dl) from 0 to 2. GPS 0 points were classified into the GPS low group and GPS 1 or 2 points into the GPS high group.

**Result**

There were 179 elderly people and 719 non-elderly people.

Postoperative hospital stay was significantly longer in the elderly group.

(13 vs. 11 days,  $p = 0.001$ )

In the elderly group, there were many cases in which emergency surgery and non-primary tumor resection.

Postoperative complications (Clavien-Dindo classification Grade III or higher) were 7.8%. In the case of radical resection (161 cases), the high GPS score group had a significantly longer hospital stay ( $p = 0.001$ ).

**Consideration**

Patient-dependent factors, such as age, comorbidities are the well-known factors that may influence the decision-making to perform curative or palliative operation or non-operative treatment in CRC.

It is considered that elderly patients are affected by the general condition, comorbidities, and postoperative complications. The GPS is simple but may useful as a novel predictor of the short-term prognosis in patients with CRC.

---

---

**P2-3 Is it necessary that chemotherapy for elderly people of Stage II colorectal cancer?**

**Authors:** Shingo Kawano<sup>1,2</sup>, Masahiro Tamura<sup>1</sup>, Yuki Tsuchiya<sup>1</sup>, Kiichi Sugimoto<sup>2</sup>, Yoshiro Ishibiki<sup>1</sup>, Yoshimi Iwanuma<sup>1</sup>, Kazuhiro Sakamoto<sup>2</sup>, Masaki Fukunaga<sup>1</sup>

**Organisation:** <sup>1</sup>Department of Surgery, Gastrointestinal Surgery, The Juntendo Tokyo Koto Geriatric Medical Center, Tokyo, Japan; <sup>2</sup>Department of Coloproctological Surgery, Juntendo University, Tokyo, Japan

**Abstract:**

**Introduction:** In Stage II colorectal cancer, the ASCO2004 guideline and ESMO guideline recommend that patients with high-risk factors should be treated with adjuvant chemotherapy. However, adjuvant chemotherapy in elderly patients (over 70 years) should give attention to their general conditions and comorbidities. The aim of this study was to assess the current status of adjuvant chemotherapy for Stage II colorectal cancer in elderly patients. **Methods:** Between 2016 and 2019, 15 patients (≥70 years) with stage II colorectal cancer who underwent curative resection were enrolled. Histological type, lymphatic or venous invasion, perforation, or obstruction were considered high-risk factors in our hospital. **Results:** Eight patients had high-risk factors (53.3%). Two patients were treated with oral fluoropyrimidines. The other patients were not treated with adjuvant chemotherapy. Only one patient out of eight patients, who had been recommended adjuvant chemotherapy, had relapsed in the lung metastasis. She and her family were rejected that because of her age (over 80 years old). Patients without high-risk factors had not relapsed. One of patients without high-risk factors was dead by subarachnoid hemorrhage. **Conclusion:** Adjuvant chemotherapy for Stage II colorectal cancer was performed for only two patients in the group of over 70 years old. Relapse was occurred one case. Death from other illness was also recognized. The risk of other illnesses may be almost same with the risk of relapse in elderly patients. Adjuvant chemotherapy for stage II colorectal cancer having high-risk factors should be individualized based on the characteristics of colorectal cancer and the patient's physiologic or functional status.

---

---

**P2-4 Assessment of frailty and short-term outcomes in the elderly patients with colorectal cancer**

**Authors:** Ayaka Ito, Masahiro Yamane, Yutaka Hattori, Fumi Shigehara, Takumi Hikawa, Sachiyo Kawamura, Jumpei Takashima, Kenji Yamazaki, Fumihiko Miura, Keizo Taniguchi, Noriyuki Matsutani, Hirotooshi Kobayashi

**Organisation:** Department of general surgery, Teikyo University Hospital, Mizonokuchi, Kanagawa, Japan

**Abstract:**

**[Background]** People aged 80 and over account for more than 9% of the overall population in Japan and accounted for about 30% of the patients with colorectal cancer in our hospital. Recently, frailty is paid attention to in the field of surgery. We evaluated of the association between frailty and short-term outcomes of patients aged 80 and over with colorectal cancer.

**[Methods]** The patients aged 80 and over who underwent colorectal surgery between January 2018 and December 2019 were included in this retrospective study. Patients with Stage IV colorectal cancer were excluded. We defined frailty as clinical frailty score (CFS) of 5 and over which was consisted of 9 levels. **[Results]** Twenty-seven patients were included in this study. The median age was 83 (80-90) years old, and the median of CFS was 5 (2-8). Fourteen patients with CFS 5 and over in the group of frailty was 52%. There was no significant difference in the pStage between the patients with and without frailty ( $P=0.42$ ). Regarding operations, one patient underwent colostomy without resection of the primary tumor, twenty-six patients underwent curative resection. Twenty-three patients underwent surgery with standard lymph node dissection, three patients underwent surgery with minimal lymph node dissection. These patients had frailty. There were no significant differences in the overall survival, recurrence rate and complication rate (Clavien-Dindo classification 2 and over) between the groups with and without frailty ( $P=0.74$ ,  $P=0.81$ ,  $P=0.58$ ). **[Conclusion]** Our treatment decision of the elderly patients with colorectal cancer based on CFS seems appropriate.

---

---

**P2-5 Two-stage operations in patients with acute right-sided colonic obstruction: a 15-year single institution experience**

**Authors:** Yi-Chiao Cheng, Chunwei Yu, Nien-Ying Tsai, Cheng-Wen Hsiao, Shu-Wen Jao

**Organisation:** Division of colon and rectal surgery, Department of Surgery, Tri-Service General hospital, National Defense Medical Center, Taipei, Taiwan

**Abstract:**

**PURPOSE:**

To review the characteristics, surgical outcomes, complications, and outcomes of two-stage operations for acute right-sided colonic obstruction (RSCO) in a single institution. Longer procedure times and bigger wounds can result in more mortality and complications in patients with acute RSCO with one stage surgery. A two-stage operation by diverting loop ileostomy was another surgical option. However, the outcomes of two-stage operations are lacking.

**METHODS:**

The retrospective study reviewed the patients who underwent emergency surgery for acute RSCO in a tertiary center from 2004-2018. First-stage operations other than diverting loop ileostomy, incomplete obstructions that could be treated medically, or pathologies other than adenocarcinomas were excluded. Perioperative data such as first and second operations, operative times, lengths of stay, harvested lymph nodes, and any complications were included. We assessed overall survival (OS) and disease-free survival (DFS) for the oncologic outcomes.

**RESULTS:**

Sixty-nine patients were included. Seven patients had surgical complications related to ileostomy. Three of them died within 30 days of first admission. Thirty-one patients received a second-stage operation by right hemicolectomy. None had anastomosis leakage or 30-day mortality. Only 9.7% of patients had fewer than 12 harvested lymph nodes. One-year OS was 34% vs. 89% between the two groups ( $P < 0.001$ ). For 26 patients underwent curative resection of tumor, their 3-year DFS was 61.5%.

**CONCLUSIONS:**

A two-stage operation is associated with low mortality and morbidity rates in an emergency setting. The subsequent right hemicolectomy can harvest more lymph nodes than emergency resection. Long-term survival benefits can be expected.

---

---

**P3-1** Is the histological response to preoperative chemoradiotherapy in locally advanced rectal cancer a predictor of treatment efficacy at recurrence?

**Authors:** Kazutake Okada, Nana Mamuro, Lin Fung Chan, Takashi Ogimi, Hiroshi Miyakita, Seiichiro Yamamoto

**Organisation:** Department of Gastroenterological Surgery, University of Tokai, Kanagawa, Japan

**Abstract:**

[Purpose]

Patients with good histological response (HR) to neoadjuvant chemoradiotherapy (NACRT) for locally advanced rectal cancer (LARC) have been reported to have a good prognosis. Therefore, we investigated whether the HR to NACRT is a predictor of treatment efficacy in pts with postoperative recurrence of LARC treated with NACRT.

[Methods]

Of 174 LARC pts who underwent curative resection surgery after NACRT from Jan. 2010 to Dec. 2016, 53 pts with recurrence by Sep. 2019 were examined. Excluding 2 pts who were transferred to other hospitals at recurrence, 51 pts were studied. The HR to NACRT was determined in accordance with the 9th edition of Japanese Classification of Colorectal Carcinoma, and the HR was determined to be Grade 0 and 1 were defined as non-responder and Grade 2 and 3 as responder. Survival analysis was performed as overall survival with the date of recurrence as the starting point.

[Results]

The NACRT histological evaluation was responder in 26, non-responder in 25. The first treatment for relapse was chemotherapy in 31, surgery in 6, and best supportive care (BSC) in 14. In pts with chemotherapy, responder (n=16) was significantly better prognosis than non-responder (n=15) (HR 0.19, p<0 .003). There was no difference in survival according to the HR in pts with surgery and BSC. In pts with chemotherapy, the reason for discontinuation of the 1st line was surgery in 13, progressive disease (PD) in 13, continuing treatment in 1, side effects in 2, and other cases in 2. Responder was significantly better prognosis than that for non-responder in both surgery and PD.

[Conclusion]

HR to NACRT may be a predictor of efficacy to chemotherapy in pts with postoperative recurrence of LARC treated with NACRT.

---

---

**P3-2 Tumor-infiltrating lymphocytes (TILs) in biopsy specimens obtained 7 days after starting chemoradiotherapy (CRT) for rectal cancer are predictors of the response to CRT**

**Authors:** Hiroshi Miyakita, Lin Fung Chan, Takashi Ogimi, Kazutake Okada, Seiichirou Yamamoto

**Organisation:** Department of Surgery, Tokai University, Kanagawa, Japan

**Abstract:**

**Background:** Neoadjuvant chemoradiotherapy(nCRT) followed by TME surgery is a standard treatment for locally advanced rectal cancer(LARC). Tumor infiltrating lymphocytes(TILs) have been reported to be associated with tumor response, however, this remains to be established. We previously reported that histological changes on biopsy specimens obtained 7 days after starting nCRT are strong predictors of response to nCRT.

**Methods:** The subjects were 208 patients with LARC who received nCRT. TILs on hematoxylin-eosin-staining together with immunohistochemical staining of lymphocyte surface markers including CD3, CD4, CD8, and FoxP3 were performed both on the biopsy specimens before and 7 days after starting nCRT.

**Results:** The proportions of patients with high densities of CD3+, CD4+, CD8+, and FoxP3+ cells 7 days after starting CRT were significantly lower than the respective values before starting nCRT ( $p<0.0001$ ,  $p<0.0001$ ,  $p=0.0023$ , and  $p=0.0046$ ). In biopsy specimens obtained before treatment, high-densities CD4+ cells and FOXP3+ cells were significantly associated with tumor shrinkage rate. High-density FOXP3+ cells were significantly associated with marked tumor regression. In biopsy specimens obtained 7 days after starting treatment, high-density CD4+ cells were significantly associated with marked tumor regression, TRG1, and tumor shrinkage rate. High-density FoxP3+ cells were significantly associated with marked tumor regression and tumor shrinkage rate.

**Conclusions:** In patients who received nCRT for LARC, the evaluations of immunohistochemical staining for CD4+ and FOXP3+ TILs were more intimately related to histological response to CRT and tumor shrinkage rates in biopsy specimens obtained 7 days after starting treatment than in biopsy specimens obtained before CRT.

---

---

**P3-3 Therapeutic effects of oxaliplatin-based neoadjuvant chemotherapy in patients with locally advanced rectal cancer**

**Authors:** Toshimoto Kimura, Koki Otuka, Tepei Matuo, Mizunori Yaegashi, Kiyoharu Takashimizu, Yuuya Nakamura, Yuichirou Hirata, Takeshi Takahara, Yuuji Akiyama, Takeshi Iwaya, Hiroyuki Nitta, Akira Sasaki

**Organisation:** Department of Surgery, Iwate Medical University School of Medicine, Iwate, Japan

**Abstract:**

**Background:** Neoadjuvant chemotherapy (NAC) alone for locally advanced rectal cancer (LARC) remains an experimental treatment, and the efficacy has not been fully elucidated. This study examined the safety and efficacy of neoadjuvant chemotherapy without radiotherapy in patients with LARC.

**Methods:** Data on patients with LARC (cStage II and III) who were treated in our institution from February 2013 to February 2019 were reviewed retrospectively. We included patients with rectal cancer who received 3-5 cycles of oxaliplatin-based NAC were analyzed and examined the rate of chemotherapy-related adverse events, the postoperative complication rate, the pathological response, 3-year relapse free survival (RFS) and LRR.

**Results:** 12 patients who received mFOLFOX6, 16 patients who received XELOX, 14 patients who received mFOLFOX + Anti-EGFR antibodies and 9 patients who received mFOLOX6 + bevacizumab were analyzed. Of the 51 patients (32 males and 19 females; median age 61 years) included in this study, 49 (96%) completed the NAC regimen. Because of disease progression after chemotherapy, 4 patients received CRT. The severe adverse effect (grade  $\geq 3$ ) of NAC was neutropenia (6%) and Liver dysfunction (4%). The median operation time was 283 min, and the median blood loss was 46 g. The R0 resection rate was 100%. The overall postoperative complication rate ( $\geq$  grade 2) was 21.3%. 4 patients had local relapse (8.5%) and 5 patients developed metastatic disease (10.6%). 3-year RFS was 79.4%. There were no significant differences in 3-year RFS and LRR between CA and CM (3-year RFS 85.2 vs. 77.3%,  $p = 0.70$ , LRR 96.3 vs. 89.1%,  $p = 0.145$ , respectively).

**Conclusion:** This study show that oxaliplatin-based NAC can be a safe and promising strategy for patients with locally advanced rectal cancer.

---

---

**P3-4 Safety and efficacy of down staging of neoadjuvant chemotherapy with modified FOLFOX6 (combination chemotherapy of infusional 5-FU/I-Leucovorin and intermittent oxaliplatin) with bevacizumab in patients with advanced lower rectal cancer**

**Authors:** Chihiro Kosugi, Keiji Koda, Hiroaki Shimizu, Masato Yamazaki, Kiyohiko Shuto, Akihiro Usui, Hiroyuki Nojima, Takashi Murakami, Yosuke Ashizawa, Masahiko Takahashi, Yukimasa Miyazawa

**Organisation:** Department of Surgery, Teikyo University Chiba Medical Center, Chiba, Japan

**Abstract:**

**Objective:** The safety and down staging rate of preoperative chemotherapy with modified (m) OPTIMOX1 plus bevacizumab were evaluated in patients with advanced rectal cancer with factors contraindicative of curative surgery.

**Materials and Methods:** From June 2007 to December 2019, 20 advanced lower rectal cancer patients with factors contraindicative of curative surgery with total mesenteric excision were eligible for this study. Neoadjuvant chemotherapy consisting of modified OPTIMOX1 (mFOLFOX6: a 2-hour infusion of leucovorin isomer dl-LV (200mg/m<sup>2</sup>), followed by a 5-fluorouracil (5FU) bolus (400mg/m<sup>2</sup>) and 46-hour infusion (2400mg/m<sup>2</sup>) with oxaliplatin (85mg/m<sup>2</sup>), and sLV5FU2 alternating administration) plus bevacizumab (5mg/kg) was administered.

**Results:** Median chemotherapy course was 7 (1-24 courses). Adverse events seen with chemotherapy consisted of grade 3 thromboembolic event in 1 patient, primary tumor perforation or a fistula to adjacent organs in 2 patients, and diarrhea in 1 patient, but there were no cases of delayed administration or dosage reduction due to grade 3 neurotoxicity. The surgical procedures were anus-preserving resection in 14 patients (70.0%) A positive radial margin was confirmed in 5 patients (25.0%). Upon comparing the clinical and postoperative histological stages, primary tumor and node down staging was achieved in 30.0% and 70.0% of the patients, respectively.

**Conclusion:** These findings suggest the potential utility of neoadjuvant chemotherapy consisting of modified OPTIMOX1 plus bevacizumab prior to permitting radical resection or anus-preserving surgery in patients with highly advanced rectal cancer.

---

---

**P4-1 Anatomical validation of internal iliac vessels assessed by three-dimensional angiographic analysis**

**Authors:** Yuya Takenaka, Naohito Beppu, Song Jihyung, Kei Kimura, Akihito Babaya, Michiko Yasuhara, Kozo Kataoka, Masataka Ikeda

**Organisation:** Department of Lower Gastroenterological Surgery, Hyogo College of Medicine, Hyogo, Japan

**Abstract:**

**Background:** Recognition of internal iliac vessels anatomy is important to safely perform pelvic surgery, especially lateral lymph node dissection. This study was designed to validate accuracy of preoperative three-dimensional (3D) angiography reconstructed from enhanced multi-detector-row computed tomography (MDCT) data and the efficacy in pelvic surgery.

**Methods:** Internal iliac vessels branching patterns were analyzed using MDCT based 3D angiography in patients (n = 34) undergoing laparoscopic pelvic surgery. They were classified with Adachi types based on the branching patterns of major branches of the internal iliac artery. (The superior gluteal, inferior gluteal, superior vesical, and internal pudendal vessels)

**Results:** The major branches of internal iliac vessels could be identified all cases at the intraoperative laparoscopic imaging, and we confirmed the consistency of preoperative 3D angiography and intraoperative findings. The rates of branching patterns of the iliac artery were comparable with previous reports. The branching patterns of the iliac vein based on Adachi's classification Type I: 61.29%, Type II: 8.06%, Type III: 6.45%, Type IV: 22.58% and Type V: 3.22%.

**Conclusions:** Preoperative 3D angiography accurately shows the branching patterns of the iliac artery and vein. This method is useful for laparoscopic pelvic surgery by contributing to a better understanding of the branching pattern of iliac vessel.

---

---

## P4-2 Treatment result of laparoscopic surgery for advanced low rectal cancer

**Authors:** Koki Goto<sup>1</sup>, Jun Watanabe<sup>1</sup>, Yusuke Suwa<sup>1</sup>, Shinsuke Suzuki<sup>2</sup>, Takuo Watanabe<sup>1</sup>, Kazuya Nakagawa<sup>3</sup>, Hirokazu Suwa<sup>4</sup>, Atsushi Ishibe<sup>2</sup>, Kazuhisa Takeda<sup>1</sup>, Mitsuyoshi Ota<sup>5</sup>, Chikara Kunisaki<sup>1</sup>, Itaru Endo<sup>2</sup>

**Organisation:** <sup>1</sup>Gastrointestinal Center, Yokohama City University Medical Center, Kanagawa, Japan; <sup>2</sup>Gastroenterological Surgery, Yokohama City University Hospital, Kanagawa, Japan; <sup>3</sup>Department of Surgery, National Organization Yokohama Medical Center, Kanagawa, Japan; <sup>4</sup>Department of Surgery, Yokosuka Kyosai Hospital, Kanagawa, Japan; <sup>5</sup>Department of Surgery, Yokohama City Minato Red Cross Hospital, Kanagawa, Japan

### **Abstract:**

#### **[Objective]**

The aim of this study was to evaluate the surgical outcomes of laparoscopic surgery (LAP) for advanced low rectal cancer compared to propensity score-matched series of open surgery (OP).

#### **[Patients and Methods]**

Data from surgical cases who were performed laparoscopic or open surgery at 13 centers associated with Yokohama Clinical Oncology Group (YCOG) for clinical stage II to III low rectal cancer were collected and analyzed. The operations were performed from 2008 to 2014. Short-term outcomes and long-term prognosis were analyzed with propensity score matching.

#### **[Results]**

1091 cases were eligible for analysis, and the cases were matched into 237 LAP group and 237 OP group cases using propensity score of six factors: age, sex, body mass index (BMI), ASA physical status, tumor location, and clinical stage. There was no difference in patient's background between 2 groups. Estimated operative time during LAP was significantly longer than that during OP (310 vs 250 min,  $P < 0.001$ ) and blood loss during LAP was significantly less than that during OP (132 vs 501 ml,  $P < 0.001$ ). The occurrence of complications and the length of hospital stay were did not differ between 2 groups. Three-year overall survival (OS) rate were 90.5% and 88.6% and three-year recurrence-free survival (RFS) rate were 78.3% and 71.6% in LAP and OP groups. No significant difference was observed in OS and RFS between the 2 groups.

#### **[Conclusion]**

Laparoscopic surgery for advanced low rectal cancer could be considered as a treatment option, based on the short-term and long-term results of this cohort study.

---

---

**P4-3 Extended total mesorectal excision based on the avascular planes of the retroperitoneum for locally advanced rectal cancer with lateral pelvic sidewall invasion**

**Authors:** Naohito Beppu<sup>1</sup>, Chang Song<sup>1</sup>, Yuya Takenaka<sup>1</sup>, Kei Kimura<sup>1</sup>, Akihito Babaya<sup>1</sup>, Michiko Yasuhara<sup>1</sup>, Kozo Kataoka<sup>1</sup>, Motoi Uchino<sup>2</sup>, Hiroki Ikeuchi<sup>2</sup>, Masataka Ikeda<sup>1</sup>

**Organisation:** <sup>1</sup>Department of Surgery, Hyogo college of Medicine, Hyogo, Japan; <sup>2</sup>Department of IBD surgery, Hyogo college of Medicine, Hyogo, Japan

**Abstract:**

**Introduction**

It has been considered difficult to achieve *en bloc* resection in cases of locally advanced rectal cancer with lateral pelvic sidewall invasion. The present study demonstrates a novel surgical procedure for these tumors.

**Technique**

There are three avascular planes of the retroperitoneum in pelvic sidewall. Two visceral pelvic fasciae, namely the ureterohypogastric fascia and umbilical prevesical fascia, and the parietal pelvic fascia can be identified. In addition, the key structures of these fasciae—the ureter, umbilical artery and external iliac vessels—can be identified transperitoneally before any dissection. Thus, these three avascular planes can be dissected without resorting to dissection of the retrorectal space. The key steps to this technique are: 1) after dissection from the side opposite to the site of tumor invasion to the dorsal side of the rectum, the avascular planes of the retroperitoneum among the three abovementioned fasciae are dissected; and 2) the retrorectal space and pelvic sidewall space are connected by sharp dissection.

**Results**

Recognizing the three abovementioned fasciae enables the dissection of the avascular planes of the pelvic sidewall, which helps to achieve *en bloc* dissection in cases of locally advanced rectal cancer with lateral pelvic sidewall invasion.

**Conclusion**

The pelvic sidewall could be divided into three areas based on the visceral pelvic fasciae, which helped to achieve *en bloc* dissection in cases of locally advanced rectal cancer with lateral pelvic sidewall invasion.

---

---

## P4-4 Short term outcomes of robotic-assisted abdominoperineal resection in our hospital

**Authors:** Yudai Yamamoto, Shinichi Yamauchi, Sodai Arai, Sono Ito, Ryuta Kakuta, Takashi Shigeno, Akitoshi Nankaku, Kei Nakajima, Masako Mizoguchi, Yuriko Matsumiya, Daiki Masuda, Akifumi Kikuchi, Takatoshi Matsuyama, Masanori Tokunaga, Yusuke Kinugasa

**Organisation:** Department of Gastrointestinal Surgery, Tokyo Medical and Dental University, Tokyo, Japan

### **Abstract:**

**Introduction:** In lower rectal tumors that require manipulation in a narrow and deep pelvis, stabilization of the field of view and improvement of operability by robotic-assisted surgery are significant advantages in terms of TME and function preservation.

**Purpose:** To investigate the safety of robotic-assisted abdominoperineal resection (Ro-APR), we compared short-term results of Ro-APR and open open-APR performed at our hospital.

**Methods:** We retrospectively examined surgical factors, postoperative complications, postoperative hospital stay, and pathological factors in 15 cases of APR performed from January 2014 to March 2018 (15 open cases) and 18 cases of Ro-APR performed from April 2018 to December 2019.

**Results:** There were no significant differences in age, gender, BMI, ASA, or preoperative stage between the open abdominal and robotic groups. Operative time was 299/229 minutes without lateral dissection ( $p=N.S.$ ), 372/420 minutes with lateral dissection ( $P=N.S.$ ), blood loss 1295 ml/32.5 ml ( $p<0.05$ ), days to meal start 3/3 days ( $p=N.S.$ ), postoperative hospital stay 18/6 days ( $p<0.05$ ), number of lymph nodes dissected (with lateral dissection) 28/32 ( $p=N.S.$ ), and no CRM-positive cases were found in both of the groups.

Clavien-Dindo classification III or higher was found one in the open group (pelvic abscess) and one in the robotic group (colon necrosis).

**Discussion:** There was no apparent prolongation in operative time, which is generally prolonged by robotic surgery, and there were significant differences in the amount of blood loss and postoperative hospital stay, which was a good outcome. Ro-APR was considered to be safe in our hospital. We will continue to accumulate cases and examine the short- and long-term results of robotic-assisted surgery.

---

---

**P5-1 Diagnostic accuracy of CEA and CA19-9 in the surveillance of colorectal cancer after curative resection**

**Authors:** Hajime Matsuida, Syungo Endo, Noriyuki Isohata, Tetsutaro Nemoto, Daisuke Takayanagi, Daiki Nemoto, Masato Aizawa, Kenichi Utano, Kazutomo Togashi

**Organisation:** Department of Coloproctology, Fukushima Medical University Aizu Medical Center Hospital, Fukushima, Japan

**Abstract:**

**Aims:** To investigate the diagnostic accuracy of serum CEA and CA19-9 monitoring as tools in the surveillance of colorectal cancer after curative surgery.

**Methods:** A total of 315 patients who underwent curative resection for colorectal cancer since 2012 at our hospital were enrolled. The surveillance involved measuring serum CEA and CA19-9 levels and performing CT scans.

**Results:** Of 59 patients with recurrence, 37 had true positivity for either CEA or CA19-9, 20 had false negativity (of which 4 had delayed recurrence), 1 had non-colorectal malignancy, and 1 was lost to follow-up. Of the 256 patients without recurrence, 174 had true negativity for both CEA and CA19-9, 38 had false positivity for CEA, 10 had false positivity for CA19-9, 4 had false positivity for both CEA and CA19-9, 11 had non-colorectal malignancy, and 19 were lost to follow-up. The accuracy of CEA and CA19-9 in 57 patients with recurrence and 226 without recurrence, excluding those with non-colorectal malignancies and those lost to follow-up, was defined by a 64.9% sensitivity, 77.0% specificity, 23.0% false-positive rate, 35.1% false-negative rate, 41.6% positive predictive value, and 89.7% negative predictive value. There was no difference between the true-positive and false-negative rates for primary recurrence sites. Of the 42 patients with false positive for CEA, the comorbidities were diabetes mellitus (n=5), pulmonary disease (n=9), liver disease (n=3), kidney disease (n=1), and smokers (n=13). Of the 14 patients with false negative for CEA, the comorbidities were cholelithiasis (n=6), liver disease (n=3), and smokers (n=2).

**Conclusions:** The diagnostic accuracy of CEA and CA19-9 for recurrence is not high and should only be used as an adjunct to diagnostic imaging.

---

---

**P5-2 Clinicopathological characteristics of anastomotic recurrence after curative resection for colorectal cancer**

**Authors:** Keigo Matsunaga, Kazuhito Sasaki, Hiroaki Nozawa, Kazushige Kawai, Manabu Kaneko, Koji Muroto, Shigenobu Emoto, Yuuki Iida, Hiroaki Ishii, Yuichiro Yokoyama, Hiroyuki Anzai, Hirofumi Sonoda, Soichiro Ishihara

**Organisation:** Department of Surgical Oncology, University of Tokyo, Tokyo, Japan

**Abstract:**

**Background:** Anastomotic recurrence (AR) is a type of local recurrence (LR) which appears on the anastomotic site. Some previous reports showed AR is associated with more favorable prognosis than other type of LR (non-anastomotic LR: NALR). This study aimed to clarify the clinicopathological features of AR in comparison to NALR.

**Method:** 2607 patients who underwent surgery for colorectal cancer between January 2005 to December 2017 were enrolled, and 1586 cases were regarded as eligible for the study (we excluded patients who received pre-operative therapy or underwent surgery without anastomosis). Patients were classified into AR group (n=15) and NALR group (n=32), and compared with non-LR patients (n=1539), and we analyzed the prognosis of both groups.

**Result:** Multivariate analysis showed that tumor location in the rectum is an independent risk factor of AR (HR 3.86, p=0.028), and rectal cancer, large tumor ( $\geq 50$ mm), and poor differentiation are independent risk factors of NALR (HR 6.66, p<0.001; HR 2.46, p=0.020; HR 3.61, p=0.023; respectively). Recurrence free intervals from primary operation were similar for the two groups (p=0.919). Survival rates after recurrence were not significantly different between the two groups (p=0.214). In comparison to NALR, AR showed higher resection rate (AR 100% vs. LR 46.9%, p<0.001), and the survival rate of resected cases was better than that of non-resected cases (p<0.001). But the 3-year recurrence free survival rates (AR 22.9% vs. NALR 33.3%, p=0.615) and overall survival rates (AR 70.1% vs. NALR 71.4%, p=0.842) after re-resection showed no significant difference.

**Conclusion:** Rectal cancer is the risk factor of both AR and NALR. AR showed higher resection rate; however, when compared among resected cases, the prognosis was similar.

---

---

## P5-3 Analysis of prognostic factors for patients with unresectable stage IV colorectal cancer

**Authors:** Tadao Tokoro, Junichiro Kawamura, Kazuki Ueda, Koji Daito, Toshiaki Wada, Masayoshi Iwamoto, Yasumasa Yoshioka, Hokuto Ushijima, Yoshinori Yane, Yusuke Makutani

**Organisation:** Department of Surgery, Kindai University Hospital, Osaka, Japan

### **Abstract:**

#### **Purposes**

The prognosis of stage IV colorectal (CRC) patients may be inequable due to patterns of varying distant metastases. To evaluate the prognostic factors of advanced stage IV CRC patients with intensive multidisciplinary therapy.

#### **Patients and Methods**

This is a retrospective cohort study from April 2006 to December 2015 in Kindai University. Actuarial outcomes were compared with Kaplan-Meier curves and log-rank test was used to determine whether significant differences existed between curves. The impact of several risk factors on survival (location, Age, CEA, modified Glasgow prognostic score (mGPS), neutrophil-lymphocyte rate (NLR), TNM classification (8<sup>th</sup> ed.), resection of primary tumor) were analyzed using Cox proportional hazards models.

#### **Results**

In the total of 137 patients with stage IV CRC, 105 (76.6%) patients had analyzed in this study. Of all patients, 32 (23.4%) patients underwent surgical resection for tumors at both the primary and metastatic sites were excluded. The median follow-up periods were 21.5 months (range: 0.9-128.5).

Primary tumor resection had been received 74 patients, and conversion surgery was received 11 patients. All of patients had received systemic chemotherapy. Median MST was different in the patients of stage IVA (N=46), stage IVB (N=38), and stage IVC (N=21) (33.0, 22.8, and 16.6 months, respectively,  $P < 0.0001$ ). Multivariate analysis of OS for patients were revealed M1c (with P factor) classification ( $P < 0.0001$ ), high serum CEA ( $\geq 50 \text{ ng/ml}$ ,  $P = 0.019$ ), non-resection of primary tumor ( $P = 0.014$ ).

#### **Conclusions**

Patients of stage IVC, or having peritoneal dissemination, had poorer prognosis than those of hematogenous metastases. Also, even if it could not be undergone metastectomy, it may be recommended treatment with resection of primary site.

---

---

**P5-4 Hyperthermic intraperitoneal chemotherapy and cytoreductive surgery for patients with appendiceal pseudomyxoma peritonei**

**Authors:** Mitsuhiro Morikawa<sup>1</sup>, Kanji Katayama<sup>1</sup>, Noriyuki Tagai<sup>1</sup>, Takayuki Naruse<sup>1</sup>, Hidetaka Kurebayashi<sup>1</sup>, Katsuji Sawai<sup>1</sup>, Kenji Koneri<sup>1</sup>, Masato Tamaki<sup>1</sup>, Makoto Murakami<sup>1</sup>, Yasuo Hirono<sup>2</sup>, Takanori Goi<sup>1</sup>

**Organisation:** <sup>1</sup>First Department of Surgery, University of Fukui, Fukui, Japan; <sup>2</sup>Cancer Care Promotion Center, University of Fukui, Fukui, Japan

**Abstract:**

**Background:** Pseudomyxoma peritonei (PMP) is the refractory disease and Cytoreductive surgery (CRS) followed Hyperthermic intraperitoneal chemotherapy (HIPEC) seemed to be the most effective approach. In our department, HIPEC is performed at a high temperature of 42.5-44 °C with CC0-1 as the standard without peritonectomy, and we report the treatment results.

**Method:** CRS+HIPEC was performed for 35 cases of PMP (DPAM/PMCA-I/PMCA: 14/6/15cases) between November 2000 and March 2020. The median PCI was 18 (3-31), and CC0/1/2/3/unknown was 11/13/6/4/1 cases (calculated retrospectively). As an index of HIPEC heating time, TD43°C, which is the time converted to 43°C, was used.

**Result:** The short-term results were operation time (median) 294 minutes, blood loss (median, included ascites) 700 g, blood transfusion (median/average) 0 ml/259 ml, TD43°C (median) 29 minutes. Median period of artificial respiration was 5 (2-16) day, and that of postoperative hospital stay was 21 (14-85) day. The postoperative complication rate of grade 3 or higher (CD classification) was 11%, and perioperative death was none. The overall 5-year survival rate for PMP was 80% and that for PMCA was 60%. The 4 cases of PMCA that died within 5 years were all cases with PCI of 21 or more and CC2-3. DPAM and PMCA-I are alive in all cases within the observation period.

**Conclusion:** Compared to PMCA, DPAM had lower PCI and CC0-1 mostly performed, so the prognosis was good. In PMCA, only CC2-3 cases died, and we think that we should aim at CC0-1. But there are some cases with relatively good prognosis even in CC2-3 cases, and we think that some therapeutic effect may be obtained in CC2-3 cases.

---

---

**P6-1 Decision of indication of lateral pelvic lymph node dissection for rectal cancer using MRI and FDG-PET**

**Authors:** Shimpei Ogawa, Michio Itabashi, Yuji Inoue, Takeshi Ohki, Yoshiko Bamba, Kurodo Koshino, Ryosuke Nakagawa, Kimitaka Tani, Hisako Aihara, Masakazu Yamamoto

**Organisation:** Department of Surgery, Institute of Gastroenterology, Tokyo Women's Medical University, Tokyo, Japan

**Abstract:**

(Objectives) The aim of the study is to examine the indication for lateral pelvic lymph node dissection (LPLD) of rectal cancer by image diagnosis. (Methods) A total of 116 patients of rectal cancer who underwent MRI and FDG-PET were included. Based on the diagnostic ability of MRI and PET, we examined the indication of LPLD. The diagnostic criteria for cN (+) were MRI in the presence of Lymph nodes with a short axis greater than the cut off value (PRLN 4mm, LPLN 6mm), and PET in the presence of lymph nodes with accumulated FDG. (Results) The diagnostic result [sensitivity, specificity, PPV, NPV (%)] was that PRLN: MRI; 92.5, 39.7, 56.3, 86.2, PET; 34.0, 92.1, 78.3, 62.4, rt-LPLN: MRI; 83.3, 63.2, 41.7, 92.3, PET; 33.3, 100, 100, 82.6, lt-LPLN: MRI; 100, 69.0, 47.1, 100, PET; 50.0, 100, 100, 87.9. MRI showed high sensitivity and NPV, and FDG-PET showed high specificity and PPV. The positive and negative likelihood ratio is that MRI: PRLN; 1.53, 0.19, rt-LPLN; 3.26, 0.26, lt-LPLN; 3.22, 0.09, PET: PRLN; 4.28, 0.72, rt-LPLN; 12.7, 0.67, lt-LPLN; 29, 0.5. MRI had a low negative likelihood ratio and PET had a high positive likelihood ratio. The 5-year RFS of a case diagnosed as cLPLN (-) by MRI and PET was that LPLD (-) 68.8% and LPLD (+) 79.7%, and there was no difference between two groups. (Conclusions) If LPLN is accumulated in FDG, it is likely to be pLPLN (+), and FDG-PET is excellent in selecting cases with need for treatment such as LPLD and CRT. On the other hand, MRI is excellent in selecting pLPLN (-) cases because of high NPV and low negative likelihood ratio. It may be possible that LPLD omissible cases could be selected by reducing false negatives by comprehensive evaluation utilizing the characteristics of MRI and PET.

---

---

## P6-2 Outcome of resection for para-aortic lymph node metastasis from colorectal cancer

**Authors:** Hiroka Kondo, Yasumitsu Hirano, Toshimasa Ishii, Masahiro Asari, Shintaro Ishikawa, Atsuko Kataoka, Takatsugu Fujii, Masahiro Kataoka, Satoshi Shimamura, Shigeki Yamaguchi

**Organisation:** Department of Gastroenterology, Saitama Medical University International medical center, Saitama, Japan

**Abstract:**

**[Purpose]** The efficacy of para-aortic lymph node metastasis resection from colorectal cancer is still unclear. We assessed postoperative outcome of para-aortic lymph node resection for metastatic patients at our hospital. **[Methods]** Fifteen patients underwent para-aortic lymph node resection for suspected metastasis from colorectal cancer since April 2007 to December 2018. **[Results]** In 9 cases (descending:1, sigmoid:4, rectum:4), paraaortic lymph node resection was performed at the primary lesion resection simultaneously. The other 6 cases were para-aortic recurrences after curative resection (transvers:1, descending:2, sigmoid:1, rectum:2). The average age of primary resection was 56 years old, 4 males and 5 females. Para-aortic lymph node metastasis was pathologically positive in 8/9 cases, resulting in 5 cases of R0 (including 1 liver metastasis resection), 1 case of R1, and 2 cases of R2 (lung and peritoneal metastasis). With a mean observation period of 4.4 years, all 3 cases of R1 and R2 died, and 4 out of 5 cases of R0 survived. Only one who received concomitant liver metastases resection died. Of recurrent 6 cases with mean 4.6 years observation, 2 cases died, and all of their metastasis was existed at the cephalic side of the renal vein. In the other 4 surviving cases, the metastatic lymph nodes were located at the caudal side of the renal vein. **[Conclusion]** Para-aortic metastatic lymph node resection may be effective for selective primary or recurrent colorectal cancer patients as possible R0 resection, no other distant metastasis, and located only caudal side of the renal vein.

---

---

**P6-3 A case of stage IV anal squamous cell carcinoma with long-term survival after multidisciplinary treatment**

**Authors:** Katsuji Sawai<sup>1</sup>, Hidetaka Kurebayashi<sup>1</sup>, Mitsuhiro Morikawa<sup>1</sup>, Kenji Koneri<sup>1</sup>, Masato Tamaki<sup>1</sup>, Makoto Murakami<sup>1</sup>, Yasuo Hirono<sup>2</sup>, Hiroyuki Maeda<sup>1</sup>, Takanori Goi<sup>1</sup>

**Organisation:** <sup>1</sup>1st department of surgery, University of Fukui, Fukui, Japan; <sup>2</sup>Cancer care promotion center, Faculty of Medical Science, University of Fukui, Fukui, Japan

**Abstract:**

The frequency of anal canal cancer is a rare disease, ranging from 0.7% to 1.8% of all colorectal cancers. Here, we present a multidisciplinary treatment for anal canal squamous cell carcinoma with liver and lung metastases. We report a case of long-term survival. The case is a woman in her 60s. She had induration in her anus, so she visited a nearby doctor. The patient was diagnosed with anal canal squamous cell carcinoma and metastatic liver cancer by CT examination, and was referred to our department. Preoperative diagnosis of anal canal squamous cell carcinoma P, T4, N0, M1, Stage IV. A rectal amputation was performed. Although postoperative intestinal obstruction, intraabdominal abscess, and other complications were observed and the liver metastases were exacerbated, the general condition improved 3 months after surgery, and hyperthermia chemotherapy with CDDP and MMC was performed 5 times. After that, anticancer drug treatment with 5-FU and CDDP was performed, and the reduction of liver metastases was observed. During the course of treatment, lung metastases appeared, so radiotherapy was performed and the lesion disappeared. Radiotherapy was also performed as additional treatment for liver metastases. After that, allergic symptoms due to CDDP were observed, and the chemotherapy was changed to TS-1, docetaxel. The liver metastasis disappeared 4 years and 6 months after the operation, and the anticancer drug treatment was discontinued. 10 years after the first attack, he is still alive with CR continuing. We report a case of stage IV anal squamous cell carcinoma with long-term survival obtained by multidisciplinary treatment.

---

---

**P6-4 A case with a solitary right axillary metastasis after curative surgery for descending colon cancer**

**Authors:** Hiroshi Sugano, Takahiro Kitagawa, Tomotaka Kumamoto, Saori Yatabe, Kai Neki, Masahisa Ohkuma, Makoto Kosuge, Ken Eto, Toru Ikegami

**Organisation:** Department of surgery, The jikei university school of medicine, Tokyo, Japan

**Abstract:**

A 79-year-old gentleman with histories of hypertension, diabetes, and malignant lymphoma was referred to our hospital for advanced left colon cancer invading pancreas tail. He underwent left hemicolectomy and distal pancreatectomy for the tumor and the surgical clinical stage was IIIC. One month after surgery, computed tomography demonstrated numerous nodular lesions with central necrosis in the right axillary lesion. Because the right axillary masses showed rapid enlargement, right axillary lymph node dissection was performed. Pathological examination of the lymph nodes showed poorly differentiated adenocarcinoma metastasized from the colon cancer, and he is now on chemotherapy. Axillary lymph node is an uncommon metastasis site from colorectal cancer. A definitive explanation for metastasis occurring in the axillary lymph node is lacking, and treatment protocols have not been established. We herein report details of this case with literature reviews.

---

---

**P7-1 Impact of adjuvant chemotherapy after curative resection of stage IV colorectal cancer excluding liver metastasis**

**Authors:** Masahiro Asari, Yasumitsu Hirano, Hiroka Kondo, Toshimasa Ishii, Shigeki Yamaguchi

**Organisation:** Department of Gastroenterological Surgery, Saitama Medical University International Medical Center, Saitama, Japan

**Abstract:**

**Background:**

In Japan, the efficacy of adjuvant chemotherapy after curative resection for stage IV colorectal cancer with liver limited metastasis has been reported, but there is little evidence for adjuvant chemotherapy after curative resection of stage IV colorectal cancer other than liver metastasis.

We investigated the impact of adjuvant chemotherapy on stage IV colorectal cancer survival and recurrence after curative surgery excluding liver metastasis.

**Methods:**

This study included 51 patients who underwent curative surgery for synchronous metastatic colorectal cancer excluding liver metastasis between 2007 and 2018. We classified the patients into those with adjuvant chemotherapy (AC group) and those without adjuvant chemotherapy (N group) and examined Overall survival (OS) and relapse-free survival (RFS).

**Results:**

Median followup time: 1131 days. There were 31 males and 20 females, with a median age of 64 years. Thirty patients were received adjuvant chemotherapy after curative surgery, and twenty-one patients were not. The metastatic sites were 27 cases of peritoneal dissemination, 12 cases of lung, 10 cases of extra-regional lymph nodes, 3 cases of the adrenal gland, and 1 case of the spleen. Relapses occurred in 30 cases.

In peritoneal dissemination cases, the median survival time (MST) of RFS was 556 days in the AC group patients and was 91 days in the N group patients. The RFS was significantly better in the A group than in the N group ( $p=0.037$ ). The MST of OS was 1352 days in the A group and 2081 days in the N group, which was not significantly different ( $p=0.76$ ). In other metastasis cases, there were no significant differences in RFS and OS.

**Conclusions:**

In peritoneal dissemination cases, adjuvant chemotherapy for stage IV colorectal cancer may improve RFS.

---

---

**P7-2 Investigation adjuvant chemotherapy for liver metastasis of colorectal cancer in our hospital**

**Authors:** Masahisa Ohkuma, Makoto Kosuge, Ken Eto, Takahiro Kitagawa, Tomotaka Kumamoto, Hiroshi Sugano, Saori Yatabe, Kai Neki, Toru Ikegami

**Organisation:** Department of Surgery, Jikei University, school of medicine, Tokyo, Japan

**Abstract:**

(backgrounds) JSCCR(Japanese Society for Cancer of the Colon and Rectum) Guidelines 2019 for the Treatment of Colorectal Cancer was revised in January, 2019. In those, the adjuvant chemotherapy (CTx) after curative resection of colorectal cancer (CRC) liver metastasis is recommended in view of high recurrence rate. However, adjuvant CTx after curative resection of liver metastasis is not examined enough. Therefore, we analyze effects of adjuvant CTx after curative resection of liver metastasis in our hospital.(methods) We investigate 108 cases (synchronous: metachronous = 65: 43). We compared prognosis of the cases received CTx (CTx(+)) and non-received CTx (CTx(-)).(results)Median of disease-free survival (DFS) and overall survival (OS) were 17.5m and N.A. in synchron cases, and DFS and OS were 24.8m and 152.2m in metachronous cases, DFS of CTx(+) and CTx(-) in synchronous cases were 36.8m vs. 8.6m ( $p=.004$ ). There is no difference between CTx(+) and CTx(-) in OS ( $p=.145$ ). There is no difference between CTx(+) and CTx(-) in DFS and OS ( $p=.255$ ,  $p=.943$ , respectively). Because there was a significant difference in DFS of synchronous cases (44cases), we compared DFS of cases received FOLFOX/CapeOX/SOX (L-OHP group) and cases received other chemotherapy (non-L-OHP group). DFS of L-OHP group and non L-OHP group was 50.6m vs. 24.5m ( $p=.873$ ). (conclusions)These results suggest that adjuvant CTx is effective for synchronous cases.

---

---

**P7-3 Efficacy and safety of mFOLFOX6 as perioperative chemotherapy for resectable liver metastases from colorectal cancer**

**Authors:** Takahiro Wada<sup>1</sup>, Kenji Katsumata<sup>1</sup>, Masanobu Enomoto<sup>1</sup>, Kenta Kasahara<sup>1</sup>, Juniti Mazaki<sup>1</sup>, Tetsuo Ishizaki<sup>1</sup>, Akihiko Tsutida<sup>1</sup>, Tetsuo Sumi<sup>2</sup>, Masatoshi Sigoka<sup>3</sup>, Hideaki Kawakita<sup>4</sup>

**Organisation:** <sup>1</sup>Department of Gastrointestinal and Pediatric Surgery, Tokyo Medical University, Tokyo, Japan; <sup>2</sup>Department of Surgery, Todachuo General Hospital, Saitama, Japan; <sup>3</sup>Department of Gastrointestinal Surgery and Transplantation Surgery, Tokyo Medical University Hachioji Medical Center, Tokyo, Japan; <sup>4</sup>Department of Surgery, Kohsei Chuo General Hospital, Tokyo, Japan

**Abstract:**

Although resection has been shown to be effective for resectable liver metastases from colorectal cancer, the clinical significance of chemotherapy for resectable liver metastases from colorectal cancer has not been determined. Therefore, we conducted a phase II trial of perioperative chemotherapy with mFOLFOX6 to examine its efficacy. [Subjects] After excluding 1 subject who refused treatment out of 42 subjects, we ultimately examined 41 subjects. [Results] Liver resection was performed in 34 of 41 patients overall (82.9%), in 77.4% of patients with synchronous liver metastases, and in 100% of patients with metachronous liver metastases. Seven patients did not undergo resection due to progressive disease. Complete response, partial response, stable disease, and progressive disease were observed in 2, 15, 17, and 7 patients, respectively; thus, the response rate was 41.5%. Adverse events consisted of grade 3 myelosuppression in 3 patients and gastrointestinal symptoms in 1 patient. In histopathological examination, 27 patients were Grade 1a:1b, 5 patients were Grade 2, and 2 patients were grade 3. As for liver injury, hepatic sinusoidal injury and steatohepatitis were observed in 29.4% and 11.7% of patients, respectively. Postoperative chemotherapy was induced in 100% of patients. [Conclusion] We confirmed that mFOLFOX6 yields favorable therapeutic effects and is safe, and we obtained clinical significance for the indication of liver resection after a certain waiting period.

---

---

**P7-4 Efficacy of chemotherapy before hepatectomy for liver metastases of colorectal cancer**

**Authors:** Yuichi Hisamatsu, Eiji Oki, Yoshiaki Fujimoto, Tomoko Jogo, Qingjiang Hu, Kentaro Hokonohara, Ryota Nakanishi, Koji Ando, Yasue Kimura, Masaki Mori

**Organisation:** Department of Surgery and Science, Graduate School of Medical Sciences, University of Kyushu, Fukuoka, Japan

**Abstract:**

[Introduction] There is still no consensus on the indications or efficacy of chemotherapy before hepatectomy for liver metastases of colorectal cancer. To clarify the indication of chemotherapy before hepatectomy for liver metastases of colorectal cancer. [Method] Of the 121 patients who underwent liver resection for liver metastases of colorectal cancer during the period 2009-2018, 90 patients underwent initial hepatectomy without other malignant disease. 1. A univariate analysis of the relationship between the remnant hepatic recurrence-free survival and some clinicopathological factors was performed. 2. We investigated the predictive factors of the effect of chemotherapy before hepatectomy in the remnant hepatic recurrence-free survival period. [Results]: Male/female: 61/29, mean age at hepatectomy was 61.9 years. The primary sites were right/left: 17/70, simultaneous/chronochronic: 63/27, mean number of liver metastases was 3.4, recurrence of remnant liver after hepatectomy: 45. 1. Among the factors, only the number of liver metastases was significantly correlated with the remnant hepatic recurrence-free survival. 2. In the group of 4 or more liver metastases, the group that received preoperative chemotherapy had a significantly longer period of the remnant hepatic recurrence-free survival than the group that did not. [Conclusion] It was suggested that chemotherapy before hepatectomy for liver metastases of colorectal cancer may be indicated in patients with 4 or more liver metastases, considering the risk of recurrence of remnant liver.

---

---

## P7-5 Current status of chemotherapy for Stage IV colorectal cancer in the elderly

**Authors:** Fumi Shigehara, Masahiro Yamane, Ayaka Ito, Yutaka Hattori, Takumi Hikawa, Sachiyo Kawamura, Jampei Takashima, Kenji Yamazaki, Fumihiko Miura, Keizo Taniguchi, Noriyuki Matsutani, Hirotohi Kobayashi

**Organisation:** Department of surgery, Teikyo University Hospital, Mizonokuchi, Kanagawa, Japan

**Abstract:**

**Background:** With the aging of patients with colorectal cancer (CRC), surgery and chemotherapy for the elderly are increasing. The use of molecular-targeted drugs in combination with FOLFIRI or FOLFOX has improved the prognosis of unresectable advanced CRC, but it is not clear whether such intensive treatment is favorable in the elderly.

**Objective:** We retrospectively compared the current status of chemotherapy for stage IV CRC between elderly group (76 years and older) and non-elderly group (75 years and younger).

**Methods:** The patients with Stage IV CRC who underwent curative or palliative resection between June 2014 and December 2019 were enrolled in this study.

**Results:** A total of 42 patients with stage IV CRC were treated. The elderly group included 17 patients (40.4%), of which 9 patients (21.4%) were 81 years or older. There was no difference in sex between the two groups ( $P=0.53$ ). The induction rate of chemotherapy was lower in the elderly group (53%) than in the non-elderly group (88%,  $P = 0.03$ ). A total of 25 patients (80%) were treated with oxaliplatin, and there was no significant difference in the regimen between the two groups ( $P = 0.06$ ). However, the proportion of best supportive care (BSC) was higher in the elderly group. Overall survival rate after the diagnosis of unresectable advanced CRC was significantly lower in the elderly group ( $P = 0.002$ ). However, three out of the four elderly patients were able to continue more than four courses of the first-line chemotherapy, which tended to prolong their prognosis.

**Conclusion** The induction rate of chemotherapy was low in the elderly group. However, some patients could receive powerful chemotherapy. It is important for the elderly to extend the duration of chemotherapy while controlling adverse events.

---

---

**P8-1 Laparoscopic right hemicolectomy for a patient with situs inversus totalis: report of a case**

**Authors:** Mitsunori Ushigome<sup>1</sup>, Kinihiko Funahashi<sup>1</sup>, You Yoshino<sup>1</sup>, Sho Yoshino<sup>1</sup>, Yasuo Nagashima<sup>1</sup>, Yasuyuki Miura<sup>1</sup>, Satoru Kagami<sup>1</sup>, Takamaru Koda<sup>1</sup>, Tomoaki Kaneko<sup>1</sup>, Junishi Koike<sup>1</sup>, Naobumi Tochigi<sup>2</sup>, Kozue Ejima<sup>2</sup>, Kazutoshi Sibuya<sup>2</sup>, Akiharu Kurihara<sup>1</sup>

**Organisation:** <sup>1</sup>Department of Gastroenterological Surgery, Toho University Omori Medical Center, Tokyo, Japan; <sup>2</sup>Department of Pathology, Toho University Omori Medical Center, Tokyo, Japan

**Abstract:**

**Introduction:** Situs inversus totalis (SIT) is a rare congenital anomaly characterized by inversion of the internal organs of the chest and abdomen. There are few reports of laparoscopic colorectal surgery in patients with SIT. We describe our experience with a patient with SIT who had cancer of the ascending colon treated by laparoscopic right hemicolectomy.

**Case report:** A 68-year-old Japanese man had a positive result on stool hemocult testing and underwent colonoscopy. An early-stage malignancy was found in the ascending colon, classified as type 0-IIa with clinical stage cT1N0M0, cStage I. The patient was noted to have complete visceral inversion. His medical history was significant for atrial fibrillation, dilated cardiomyopathy, and hypertension. His height was 157 cm, and his weight was 65.3 kg. His temperature was 36.2 °C, his blood pressure was 110/80 mm Hg, and his pulse was 64 beats per minute and irregular. He was noted to have dextrocardia with no murmur. His abdomen was flat and soft with no tenderness. His leukocyte count was 6100/mm<sup>3</sup>, with a hemoglobin level of 18.3 g/dL and a carcinoembryonic antigen level of 5.3 ng/mL. Surgical planning was achieved using three-dimensional computed tomography. The positions of the surgeon and assistant were reversed compared with conventional surgery, but the procedure was otherwise standard. The patient was discharged on postoperative day 14 with no complications.

**Considerations:** Translocated organs require careful attention to diagnostic and surgical procedures. Surgeons must recognize that the anatomy is a mirror image of normal, but otherwise the surgical procedure of laparoscopic hemicolectomy is unchanged. It is a safe and feasible procedure for colorectal cancer, even in patients with SIT.

---

**P8-2 A useful mesorectal dissection method during robot-assisted laparoscopic tumor-specific mesorectal excision (TSME) for rectal cancer: the efficient switching technique (EST)**

**Authors:** Hiroshi Takeyama<sup>1</sup>, Katsuki Danno<sup>2</sup>, Shingo Noura<sup>1</sup>, Yozo Suzuki<sup>1</sup>, Kazuki Odagiri<sup>1</sup>, Yoshitomo Yanagimoto<sup>1</sup>, Kozo Noguchi<sup>1</sup>, Junzo Shimizu<sup>1</sup>, Tomono Kawase<sup>1</sup>, Hiroshi Imamura<sup>1</sup>, Naohiro Tomita<sup>1</sup>, Keizo Dono<sup>1</sup>

**Organisation:** <sup>1</sup>Department of Surgery, Toyonaka Municipal Hospital, Osaka, Japan; <sup>2</sup>Department of Surgery, Minoh City Hospital, Osaka, Japan

**Abstract:**

**Purpose**

Even in robot-assisted laparoscopic surgery (RALS), mesorectal dissection during tumor-specific mesorectal excision (TSME) is difficult in a narrow pelvic cavity. To overcome this difficulty, we invented a novel method of mesorectal dissection.

**Methods**

In this novel approach, we switched the fenestrated bipolar forceps and double-fenestrated forceps with each other so that both instruments were placed on the same (right) side of the patient. After the mesorectal fat and vessels were coagulated using the fenestrated bipolar forceps, coagulated tissues were dissected using the monopolar scissors in the same direction. We named this technique the “efficient switching technique (EST)”. We evaluated the usefulness of EST in 24 consecutive patients who underwent RALS TSME between September 2018 and January 2020.

**Results**

Twelve patients underwent EST, and 12 patients underwent other conventional surgical methods (non-EST). The median operation time for mesorectal dissection was 809.5 seconds (range, 395–1491 seconds) in the EST group and 985.5 seconds (range, 493–2353 seconds) in the non-EST group. Although no significant differences were found for operation time for mesorectal dissection, the operation time for mesorectal dissection by EST tended to be shorter than by non-EST ( $P = 0.157$ ). No significant differences were found regarding short-term outcomes between the groups.

**Conclusion**

EST can safely, stably, and smoothly dissect the mesorectum in RALS TSME. This method is useful in RALS TSME.

---

## P8-3 The impact of sustained metformin use on survival in diabetes patients of operable colorectal cancer: A nationwide cohort study

**Authors:** Ping-Teng Chu<sup>1,2</sup>, Shang-Chi Lee<sup>7</sup>, Tzu-Jung Chuang<sup>7</sup>, Tung-Ho Wu<sup>2</sup>, Wei-Chun Huang<sup>3,4,5</sup>, Jui-Ho Wang<sup>1,6</sup>

**Organisation:** <sup>1</sup>Division of Colon and Rectal Surgery, Department of Surgery, Kaohsiung Veterans General Hospital, Kaohsiung, Taiwan, ROC. ; <sup>2</sup>Division of Surgical Intensive Care, Department of Critical Care Medicine, Kaohsiung Veterans General Hospital, Kaohsiung, Taiwan, ROC.; <sup>3</sup>Department of Critical Care Medicine, Kaohsiung Veterans General Hospital, Kaohsiung, Taiwan, ROC.; <sup>4</sup>School of Medicine, National Yang-Ming University, Taipei, Taiwan, ROC.; <sup>5</sup>Department of Physical Therapy, Fooyin University, Kaohsiung Taiwan, ROC.; <sup>6</sup>Division of Health Management, Physical Examination Center, Kaohsiung Veterans General Hospital, Kaohsiung, Taiwan, ROC.; <sup>7</sup>Department of Public Health, National Cheng Kung University Hospital, College of Medicine, National Cheng Kung University, Tainan, Taiwan, ROC.

### Abstract:

#### Introduction

Diabetes has been proven to be an independent risk factor in the occurrence of colorectal cancer. Metformin, the drug of choice for the treatment of type 2 diabetes, has been shown to reduce the risk of developing colorectal cancer.

#### Objective

The aim of this study is to investigate the impact of continuous use of metformin on the survival of diabetic patients after surgery for colorectal cancer.

#### Methods

The longitudinal cohort study from the Taiwanese population-based National Health Insurance Research Database. Patients with colorectal cancer and type 2 diabetes who underwent curative surgery were enrolled from January 2000 to December 2012. After excluding patients with missing data, other cancers, age <18, and use of diabetic medicine within 28 days before colorectal. Finally, 6,222 patients were included in the matched cohort, using 1:1 propensity score matching, to adjust for differences in baseline variables. Time-dependent covariates in the cox proportional hazard model was used to examine the impacts of metformin use on survival.

#### Results

The Cox proportional hazard model revealed that continuous metformin use post operation was associated with 5-year survival benefit (HR: 0.23, 95% CI: 0.20-0.26, P<.0001). Furthermore, continuous metformin use also showed a benefit of decreasing liver metastases (HR: 0.83, 95% CI: 0.71-0.97, P=.0169).

#### Conclusion

Sustained Metformin use is associated with a significant survival benefit in diabetic colorectal cancer patients after operation, suggesting a potential anti-tumorigenic effect. Moreover, continuous metformin use can also prevent liver metastases, which may help dispel the concept that metformin only benefits the decrease of blood glucose and gives credit to its auxiliary role in cancer treatment.

---

**P8-4 An extremely rare case of neuromuscular and vascular hamartoma of the appendix**

**Authors:** Takahiro Sasaki<sup>1</sup>, Tomohisa Furuhashi<sup>1</sup>, Masashige Nishimura<sup>1</sup>, Tatsunori Ono<sup>1</sup>, Akiyoshi Noda<sup>1</sup>, Hirotaka Koizumi<sup>2</sup>, Nobuyoshi Miyajima<sup>1</sup>, Takehito Otsubo<sup>3</sup>

**Organisation:** <sup>1</sup>Digestive Disease Center, St. Marianna University School of Medicine Toyoko Hospital, Kanagawa, Japan; <sup>2</sup>Pathology Department, Toyoko Hospital, St. Marianna University School of Medicine, Kanagawa, Japan; <sup>3</sup>Department of Gastroenterological and General Surgery, St. Marianna University School of Medicine, Kanagawa, Japan

**Abstract:**

(Background) Neuromuscular and vascular hamartoma has been known as a rare lesion of the small intestine, with only 26 cases reported since its initial description in 1982. A case occurring in the appendix has not been reported until now. (Case presentation) A 60-year-old man has been suffering from longstanding right lower quadrant pain. Abdominal computed tomography showed a slight swelling of the appendix to be considered as a cause of pain. Laparoscopic appendectomy with partial resection of cecum was performed for diagnostic and therapeutic purposes. 18X10mm lesion located on the tip of appendix in the resected specimen. Pathological examination demonstrated that a lesion was covered with normal mucosa and consisted of adipose tissue, smooth muscle fibers, small vessels, and neural fibers. These findings were consistent with neuromuscular and vascular hamartoma of the appendix. (Conclusion) This report is the first case of neuromuscular and vascular hamartoma arising from the appendix.

---

---

**P8-5 A case of appendiceal endometriosis indistinguishable from appendiceal mucinous neoplasm**

**Authors:** Takuya Suzuki<sup>1</sup>, Ryoji Makizumi<sup>1</sup>, Sota Usui<sup>1</sup>, Taro Hamabe<sup>1</sup>, Asako Fukuoka<sup>1</sup>, Takayuki Asano<sup>1</sup>, Motohiro Chosokabe<sup>2</sup>, Junki Koike<sup>2</sup>, Takehito Otsubo<sup>1</sup>

**Organisation:** <sup>1</sup>Department of Gastroenterological and General Surgery, St.Marianna University School of Medicine, Kanagawa, Japan; <sup>2</sup>Department of Pathology, St. Marianna University School of Medicine, Kanagawa, Japan

**Abstract:**

Rare site endometriosis is a general term for diseases in which endometrial tissue appears outside the uterus and ovaries. We experienced an appendiceal endometriosis that developed in the appendix. A 37-year-old woman was seen at other hospital with an appendiceal tumor of about 2 cm on CT in April 2017. They suspected a tumor of the appendix and recommended the treatment, but she didn't hope. It was confirmed the volcano sign by colonoscopy in July 2019. They diagnosed with appendiceal mucinous neoplasm and advised to treat, but she didn't hope again. CT scan in February 2020, it was revealed that the tumor had grown to approximately 4 cm, and then she came to our hospital for treatment in March 2020.

A laparoscopic ileocecal resection was performed with a diagnosis of appendiceal mucinous neoplasm. She discharged on the 7th postoperative day. It was shown endometrioid gland ducts in the muscularis propria on histopathological examination, and we diagnosed appendiceal endometriosis. Appendiceal endometriosis is a relatively rare disease among rare site endometriosis, and it is often difficult to distinguish it from appendiceal mucinous neoplasm. We report this case and review the associated literature.

---

---

**P9-1 Cap polyposis treated with laparoscopic-assisted total colectomy and ileal J-pouch anal anastomosis**

**Authors:** Tomohiro Minagawa<sup>1</sup>, Hiroki Ikeuchi<sup>1</sup>, Kurando Kusunoki<sup>1</sup>, Ryuichi Kuwahara<sup>1</sup>, Yuki Horio<sup>1</sup>, Toshihiro Bando<sup>1</sup>, Naohito Beppu<sup>2</sup>, Masataka Ikeda<sup>2</sup>, Motoi Uchino<sup>1</sup>

**Organisation:** <sup>1</sup>Division of Inflammatory Bowel Disease Surgery, Department of Gastroenterological Surgery, Hyogo College of Medicine, Hyogo, Japan; <sup>2</sup>Division of Lower Gastrointestinal Surgery, Department of Gastroenterological Surgery, Hyogo College of Medicine, Hyogo, Japan

**Abstract:**

A 48-year-old male visited a local clinic because of diarrhea and bloody stools in 2018. Under suspicion of dysenteric amoeba, the patient was treated with metronidazole, though the symptoms did not improve. A subsequent close examination led to suspicion of cap polyposis (CP), though no effects were observed with 5-aminosalicylic acid or steroid enema administrations, and the patient was referred to our hospital. Even though medical treatment was performed, exacerbation of bloody stools, diarrhea, and abdominal pain was observed, thus laparoscopic-assisted total colectomy and ileal J-pouch anal anastomosis with an ileostomy procedure were performed, which resulted in improvement of the conditions. The cause of CP has not been elucidated and there is no established treatment, though helicobacter pylori (HP) infection has been noted in several cases reported in Japan and eradication therapy is often successful. Additionally, following surgery, recurrence within a short period is common. The present case was HP-negative and antimicrobial treatment had no effects, though the symptoms were later improved by surgery. We report here a case of CP, which is extremely rare in Japan.

---

---

**P9-2 Intraoperative blood flow evaluation by indocyanine green fluorescent system can detect potential blood flow deficiency in colorectal surgery**

**Authors:** Tomoyuki Momma, Wataru Sakamoto, Misato Ito, Leo Yamada, Hisashi Onozawa, Hirokazu Okayama, Shotaro Fujita, Motonobu Saito, Zenichiro Saze, Koji Kono

**Organisation:** Department of Gastrointestinal Tract Surgery, Fukushima Medical University, Fukushima, Japan

**Abstract:**

**Background:** In colorectal surgery, blood flow insufficiency in the remnant colon is one of the major causes of anastomotic leakage(AL). However, how to evaluate the blood flow is totally dependent on macroscopic appearance and operators' experience. Recently, in Japan, The indocyanine green(ICG) fluorescence test (ICG-FT) was approved as by the national insurance as an intraoperative blood flow evaluation method. We applied this method for colorectal surgery from Oct. 2018. We herein report the short term, introductive results.

**Methods:** During operations, after ligating marginal artery just before anastomosis, ICG (0.5mg/kg) was administrated intravenously, the blood flow of both oral and anal stumps were evaluated by fluorescence using PDE system for open surgery (Hamamatsu photonics, Hamamatsu, Japan) or using VISERA ELITE II (Olympus, Tokyo, Japan) for laparoscopic surgery. Comparing Fluorescence of the anastomotic area with other bowels, and the same levels of their fluorescence regarded as negative. Patients who had colorectal surgery in our department were enrolled in the study and analyzed retrospectively.

**Results:** Thirty-three patients (male: 27, female: 6, average age: 67.3 y.o.) were enrolled. 14 patients were colon cancer, 12 patients were rectal cancer and 7 patients were benign diseases. 5 patients had open surgery, 24 patients had laparoscopic surgery and 4 has robotic surgery. One patient changed the reconstruction design due to poor ICG fluorescence. Two patients had anastomotic leakage postoperatively in spite of good ICG fluorescence.

**Conclusions:** This study revealed that ICG-FT could detect blood insufficiency which could not be recognized by macroscopic appearance and that AL could occur in spite of sufficient blood supply confirmed by ICG-FT.

---

---

**P9-3 Radiation-induced small intestine angiosarcoma presented with obstruction: a rare complication of radiotherapy**

**Authors:** Ren Hao Chan<sup>1</sup>, Chung Ta Lee<sup>2</sup>, Jenq Chang Lee<sup>1</sup>

**Organisation:** <sup>1</sup>Department of Surgery, National Cheng Kung University Hospital, College of Medicine, National Cheng Kung University, Tainan, Taiwan; <sup>2</sup>Department of Pathology, National Cheng Kung University Hospital, College of Medicine, National Cheng Kung University, Tainan, Taiwan

**Abstract:**

**Introduction:** Angiosarcomas are rare pathologies, and their appearance in the small intestine is extremely unusual. Radiation-induced small intestine angiosarcoma (RSIA) is a rare delay complication after radiation.

**Case report:** We herein report the case of 75-year-old female received low anterior resection (LAR) and post-operative radiotherapy for rectal cancer 14 years ago. In recent one month, she complained of intermittent abdominal craping pain, nausea, vomiting, and body weight loss 4 kg. Initially she received conservative treatment with nutrition support. Unfortunately conservative failure, she received explore laparotomy. Segmental ileum fibrosis was found and she received segmental resection with reconstruction. The pathology finding was two hemorrhagic lesions composed of spindle cell proliferation and anastomosing vascular channels. The tumors infiltrate in the whole layers of intestine (mucosa to subserosa). Mitoses are present. The tumor cells are focally positive for CD34, and negative for HHV-8 stain. Angiosarcoma was diagnosed according to pathological finding. She discharged hospital at POD11 without any surgical complication.

---

---

**P9-4 Comparison of long-term outcomes of stent versus decompression tubes and stomas as bridge to surgery for obstructive colorectal cancer**

**Authors:** Fumitaka Asahara, Hiritoshi Hasegawa

**Organisation:** Department of Surgery, Tokyo Dental Collage Ichikawa General Hospital, Chiba, Japan

**Abstract:**

**Background:** The use of self-expanding metallic stent (SEMS) was first authorized by insurance and became available nationwide in Japan in 2012. SEMS may be used in acute obstructing colorectal cancers to avoid high-risk emergency surgery. However, oncological safety remains uncertain.

**Aim:** To compare the long-term oncological outcome of SEMS with decompression tubes and stomas as a bridge to elective curative surgery.

**Methods:** A consecutive prospective cohort of twenty patients admitted with Stage II-III obstructing colorectal cancer between April 2012 and March 2018 was analysed. The primary outcome was overall survival (OS). The secondary outcome was the recurrence rate and mean time to recurrence.

**Results:** There were twelve patients in the SEMS group and eight patients in the decompression tube and stoma group (NS group; decompression tubes : stoma = 5 : 3 ). The median OS were 38.9 months (range, 19.2–64.0 months) for the SEMS group and 38.2 months (range, 14.2–54.6 months) for the NS group (P=0.178). The proportions of patients who received postoperative adjuvant chemotherapy were comparable (SEMS group vs. NS group, 66.7 % vs. 75%, P=0.734).

The proportions of recurrence were comparable (SEMS group vs. NS group, 33.3% vs. 37.5%, P=0.889). The median times to recurrence after curative surgery were 34 months (range, 12.5–41.8 months) for the SEMS group and 12.4 months (range, 11.7–29.4 months) for the NS group (P=0.048). And there was no local recurrence in the both groups.

**Conclusion:** Preoperative SEMS insertion does not adversely affect long-term oncological outcomes or patient survival.

---

---

**P9-5 A case of sinusoidal obstructive syndrome with similarity to the metastatic liver cancer**

**Authors:** Saori Yatabe, Takahiro Kitagawa, Tomotaka Kumamoto, Hiroshi Sugano, Kai Naki, Masahisa Ohkuma, Makoto Kosuge, Ken Eto, Toru Ikegami

**Organisation:** Department of Surgery, Jikei University school of medicine, Tokyo, Japan

**Abstract:**

We had a 34-year-old female case, with histories of surgeries for adenomatous goiter and neuroblastoma, had diarrhea and constipation. Colonoscopy showed advanced cecal cancer and she was referred to our department. Computed tomography (CT) revealed the right renal carcinoma as well, and she underwent laparoscopic ileocecal resection and right renal tumor resection. The tumor pathological stage of the colon cancer was T3N1bM0 (Stage IIIb), and the patient received intravenous oxaliplatin plus oral capecitabine (CapeOX) as adjuvant chemotherapy for six months. One month after the adjuvant chemotherapy, CT scan and abdominal ultrasound showed multiple hepatic masses, although the tumors were negative for FDG-PET scan. Liver biopsy was performed and it showed no cancer cells but congestion, dilatation, and fibrosis of the peri-central vein representing circulatory disturbance. Based on the appearance of those lesions after chemotherapy, chemotherapy induced sinusoidal obstructive syndrome (SOS). She is currently under strict follow-up. We experienced a unique case of SOS with similarity to the metastatic liver cancer on imaging studies except FDG-PET scan.

---

---

## P10-1 Short-term outcomes of patients with robotic surgery for rectal cancer

**Authors:** Jumpei Takashima, Masahiro Yaname, Yutaka Hattori, Ayaka Ito, Fumi Shigehara, Takumi Hikawa, Sachiyo Kawamura, Kenji Yamazaki, Fumihiko Miura, Keizo Taniguchi, Hirotoishi Kobayashi

**Organisation:** Department of surgery, Teikyo University Hospital, Mizonokuchi, Kanagawa, Japan

**Abstract:**

**Background:**

Robotic rectal surgery has been covered by nation health insurance in Japan since April 2018. We have performed robotic rectal surgery since July 2019. However, the superiority of robotic surgery over laparoscopic surgery for rectal cancer has not been established yet.

**Objective:**

To compare the short-term outcomes between robotic and laparoscopic surgery for rectal cancer.

**Methods:**

We retrospectively analyzed the outcomes of 23 consecutive patients who underwent surgery for rectal cancer between April 2019 and April 2020.

**Results:**

Nine patients underwent robotic surgery (39%). Two groups were similar in terms of age, sex, body mass index, HbA1c, Alb. The surgical procedures were as follows: 5 high anterior resections (HAR), 9 low anterior resections (LAR) in laparoscopic surgery, and 5 HAR and 4 LAR in robotic surgery. Laparoscopic surgery was associated with shorter operative time (291.5 vs 440 minutes;  $P=0.004$ ). The patients with robotic surgery had shorter hospitalization after surgery (9 vs 11 days;  $P=0.024$ ). There was no conversion to open surgery in both groups. There was no significant difference in bleeding between laparoscopic and robotic surgery (35 ml vs 30 ml;  $P=0.71$ ). Postoperative complication occurred in one patient (7.1%) of laparoscopic surgery, and 1 patient (11.1%) of robotic surgery. The complication in the robotic surgery was ileus. The main reason for it seems severe adhesion because of past surgeries.

**Conclusions:**

The short-term outcomes were almost equivalent between robotic and laparoscopic surgery for rectal cancer. Robotic surgery was associated with shorter hospitalization after surgery. It may be associated with better short-term outcomes over laparoscopic surgery. However, the longer operative time should be improved in robotic surgery.

---

---

**P10-2** Thirty-day readmission after elective colorectal surgery for colon cancer: a single-center cohort study

**Authors:** Han Deok Kwak, Jun Seong Chung, Jae Kyun Ju

**Organisation:** Department of Surgery, Chonnam National University Hospital, Gwangju, Korea

**Abstract:**

**Purpose:** There has been a concern that the concept of enhanced recovery after surgery could affect other proposed quality measures, including the rate of readmission due to early discharge. We aimed to examine the 30-day readmission rate, risk factors associated with readmission after elective colorectal surgery for colon cancer, causes of readmission, oncologic outcomes.

**Methods:** We retrospectively investigated 292 patients who underwent elective colorectal surgery for colon cancer between 2010 and 2015. Univariate and multivariate logistic regression analyses were performed to identify risk factors associated with 30-day readmission.

**Results:** A total of 229 patients who underwent elective colorectal surgery were enrolled. Twenty-four patients were readmitted 30 days after discharge. The most common readmission diagnoses were wound bleeding or surgical-site infection. Multivariate analysis indicated that patients who had preoperative hepatic disease were at the highest risk of readmission. The survival outcomes were significantly higher in the non-readmitted group.

**Conclusion:** This study identified that preoperative comorbidities including hepatic and pulmonary diseases were associated with higher readmission rates after elective colorectal surgery. Moreover, the most common cause of readmission in patients who underwent elective colorectal surgery was wound bleeding or surgical-site infection.

---

---

## P10-3 Treatment results of small bowel adenocarcinoma

**Authors:** Hideto Fujita, Yasuto Tomita, Yoritaka Fujii, Ryouzuke Kin, Hisashi Nishiki, Seiko Miura, Jun Fujita, Daisuke Kaida, Takashi Miyata, Naohiko Nakamura, Nobuhiko Ueda, Hiruyuki Takamura

**Organisation:** General and Digestive Surgery, Kanazawa Medical University, Kanazawa, Japan

### **Abstract:**

#### <Introduction>

Malignant neoplasms of the small bowel are uncommon. Surgical resection provides the only hope of cure for patients with small bowel adenocarcinomas(SBA). Because of its low prevalence, few clinical trials have been performed to assess the efficacy of chemotherapy for treating SBA.

#### <Patients and methods>

The outcome of surgical treatment of 22 cases of primary SBA (occurred in the duodenum, jejunum and ileum excluding duodenal papillary carcinoma) treated at our hospital between January 2000 and January 2017 was investigated. Stage of SBA was classified according to UICC TNM 8th edition.

#### <Results>

A total of 22 patients, of median age 71.5 years, were followed-up for a median time of 33.7 months. The tumor was located in the duodenum in 45% of the patients while 55% had a lesion in the jejunum and the ileum. TNM stages were as follows: 3(30%), 2(20%), 5(50%), and 0 patients with stage I, II, III, and IV duodenal adenocarcinoma, respectively, and 0, 4(33%), 2(17%), and 6(50%) with jejunoileal adenocarcinoma, respectively. We performed bowel resection with lymph node dissection for 17 cases, local resection for 4 cases, and bypass surgery for one case. The 5-year survival rate for stage I, II, III, and IV was 100%, 83%, 57%, and 0%, respectively. Chemotherapy was performed in all six cases of Stage IV. Combination of 5-FU and platinum compounds regimen was performed in 5cases. The median survival time was 22 months and the response rate was 50%.

#### <Conclusion>

Most SBA patients were diagnosed with advanced stage disease, but some patients with duodenal cancer were detected in early stage by endoscopy. This study results suggested that long-term survival can be expected if curative resection is possible, and systemic chemotherapy is effective for metastatic SBA.

---

## P10-4 Clinicopathological study in 65 anal fistula cancer patients

**Authors:** Emi Yamaguchi, Tetsuo Yamana, Hiromi Murase, Syunsuke Motegi, Taro Tanabe, Takashi Fujimoto, Takuya Nakada, Risa Nishio, Daisuke Okada, Satomi Furukawa, Kinya Okamoto

**Organisation:** Coloproctology Center, JCHO Tokyo Yamate Medical Center, Tokyo, Japan

**Abstract:**

**Background and aim:** Anal fistula cancer is relatively rare and diagnosis and treatment are still unclear. This study analyzed the clinicopathological features of anal fistula cancer patients.

**Patients and methods:** We retrospectively reviewed records of anal fistula cancer patients who underwent surgery at our institution between 1999 and 2019. Clinical manifestation, diagnostic tests, operations, pathological results, postoperative treatment, and prognoses were analyzed.

**Results:** The 65 patients in this study included 63 men and two women, with a median age of 63 (37-82) years. The symptoms were anal pain in 45, mass in 41, and colloid discharge in 28 cases. Seven were categorized as high intersphincteric; 16 as transsphincteric; and 23 as suprasphincteric. MRI was performed in 54 cases and colloid collection or tumor findings suggesting anal fistula cancer were present in 48 (89%). The colloid cytology indicated class V in 29 of 39 cases (74%). Abdominoperineal resection was performed in 62 cases, and total pelvic exenteration in three. Pathological results indicated mucinous adenocarcinoma in 50, tubular adenocarcinoma in 11, squamous cell carcinoma in two, and adenosquamous cell carcinoma in two. There were 25 cases of recurrence; local recurrence in 17, lung metastasis in three, and bone metastasis in two. Chemotherapy was used in 10 cases, radiotherapy in six cases, lung resection in three cases. The overall five-year survival rate was 80.0%.

**Conclusions:** Although anal fistula cancer is difficult to diagnose, colloid cytology and MRI are useful. Local recurrence is high because complete excision is difficult. The five-year survival rate was 80%. Postoperative chemotherapy and/or radiotherapy may improve the prognosis.

---

---

**P11-1 Laparoscopic rectopexy may be a recommended procedure for Japanese patients with a recurrence following surgical repair of rectal prolapse**

**Authors:** Yasuyuki Miura, Kimihiko Funahashi, Akiharu Kurihara, Yu Yoshino, Mitsunori Ushigome, Tomoaki Kaneko, Satoru Kagami, Kimihiko Yosida

**Organisation:** Department of General and Gastroenterological Surgery, Toho University Medical Center, Omori Hospital, Tokyo, Japan

**Abstract:**

**Background:** In Japan, where the population is aging rapidly, rectal prolapse (RP) is a clinical finding that develops mainly in elderly women. RP should not be overlooked because it impairs the quality of life of elderly patients. Surgery is the recommended treatment for RP, but the optimal surgical procedure has not been established, and thus is a dilemma because of the high recurrence and morbidity rates. The aim of this study was to clarify whether laparoscopic rectopexy (lap-rectopexy) is suitable for Japanese patients with recurrent RP.

**Patients and methods:** We retrospectively evaluated 77 patients with recurrent RP between June 2008 and April 2016. Forty-one patients underwent lap-rectopexy (lap-rectopexy group) and 36 patients underwent a perineal procedure (perineal group). We compared the surgical outcomes and recurrence rates following surgery between the two groups.

**Results:** There were no significant differences in patient characteristics between the two groups. The mean operative time in the lap-rectopexy group was significantly longer than that in the perineal group ( $257 \pm 110.2$  vs.  $145.5 \pm 51.6$  min,  $p \leq 0.001$ ). Blood loss, length of hospitalization, and post-operative complications were similar in the two groups. The recurrence rate following surgery in the lap-rectopexy group was significantly less than that in the perineal group (17.1% vs. 38.9%,  $p=0.032$ ).

**Conclusion:** Lap-rectopexy may be recommended for patients with recurrent RP because of the lower recurrence rate and similar safety profile compared to a perineal procedure.

---

---

**P11-2 Surgical techniques and results of laparoscopic suture rectopexy for complete rectal prolapse at our hospital**

**Authors:** Satoshi Matsuda, Atsushi Matsunaga, Noritaka Oda, Kenichiro Arai, Yoshiko Aikawa, Masahiko Nonaka, Kozo Kimura, Kazuhiko Kawakami, Katsuhiko Nakai

**Organisation:** Department of Surgery, Matsuda Hospital, Shizuoka, Japan

**Abstract:**

Since the introduction of endoscopic surgery, minimally-invasive and highly radical transabdominal surgery can be performed, and laparoscopic suture rectopexy (LSR) is selected as the first choice for patients who have no serious comorbidities. We report the surgical techniques and results for LSR at our hospital. The surgery is performed in the lithotomy position with 5 ports. The procedure is started by mobilizing the right side of the rectum, and the retrorectal space is dissected to a level where the levator ani muscle is exposed. The anterior surface of the promontory is incised to expose the anterior longitudinal ligament. The rectal serosal muscle layer and anterior longitudinal ligament are sutured and fixed by direct suture with 3 needles using 2-0 non-absorbable sutures. Mesh is not used. Fifty patients who underwent LSR between July 2016 and March 2020 were included. The perioperative complications included open conversion in 6 patients (12%), postoperative ileus in 1 (2%), and wound infection in 1 (2%). Relapse was observed in 4 patients (8%). Although there were many elderly patients, the surgery could be performed safely without  $\geq$ Grade 3 adverse events observed. All 4 patients who experienced a relapse were due to the displacement of fixation. Three patients, excluding one under follow-up, underwent LSR again, and one relapsed again. This patient also presented with uterine prolapse, and seemed to be the cause of the relapse. We believed that there may be a need to evaluate surgical methods such as sacrovaginal fixation using mesh based on the presence of pelvic organ prolapse instead of focusing too much on direct suture fixation methods. LSR for rectal prolapse was considered to be a safe and highly radical surgical technique.

---

---

## P11-3 Lumbosacral discitis following laparoscopic direct suture rectopexy

**Authors:** Sho Yoshino, Kimihiko Funahashi, Akiharu Kurihara, Mitunori Ushigome, Tomoaki Kaneko, Satoshi Kagami, Yasuo Nagashima, Yasuyuki Miura

**Organisation:** Department of Surgery Toho university of Oomori medical center, University of TOHO, Tokyo, Japan

**Abstract:**

The case was a 75-year-old female. Five years ago, she underwent Delorme procedure for rectal prolapse (RP).

Her RP had relapsed, and she was referred to our facility for treatment with rectopexy. Preoperative colonoscopy showed diverticulum on the ascending and sigmoid colon. She underwent direct suture rectopexy (without mesh) for RP.

On day 14 she had difficulty walking due to severe lower back pain and on day 15 she had a high fever.

We suspected complications at the rectal fixation site and conducted an urgent abdominal computed tomography (CT), which did not find any inflammation.

Furthermore, colonoscopy did not show any suture penetration.

Her lower back pain was so severe that she needed opioids and asked to consult orthopedic surgeon.

They suggested the possibility of iliopsoas abscess or purulent spondylitis.

Paeruginosa was identified in blood culture on day 19.

Emergency magnetic resonance imaging (MRI) for her prolonged lower back pain confirmed significant spinal canal stenosis due to osteomyelitis and discitis.

Intravenous antibiotics (Ceftazidime) were started immediately for 6 weeks, using recommendations from the departments of microbiology.

As a result of treatment, the patient's lower back pain and inflammatory findings gradually improved, and she was discharged from the hospital on day 66.

Although rare, the fixation of organs to the sacrum can result in lumbosacral discitis.

Rectal fixation should be followed postoperatively, taking care of this complication.

---

## P11-4 Laparoscopic direct suture rectopexy for rectal prolapse

**Authors:** Akiharu Kurihara, Yu Yoshino, Kimihiko Yoshida, Takayuki Suzuki, Shou Yoshino, Takamaru Kouda, Yasuo Nagashima, Satoru Kagami, Tomoaki Kaneko, Mitsunori Ushigome, Hiroyuki Shiokawa, Masashi Watanabe, Hideaki Shimada, Hironori Kaneko, Kimihiko Funahashi

**Organisation:** Department of surgery, Toho University Omori Medical Center, Tokyo, Japan

### **Abstract:**

Introduction.

The prevalence of rectal prolapse is high in elderly women.

The patient's quality of life is severely deteriorated by the discomfort, bleeding and pain associated with prolapse.

Laparoscopic direct suture rectopexy is an excellent procedure that is minimally invasive and has a low recurrence rate. We studied the outcomes of direct laparoscopic suture rectopexy.

Patients and Methods

Patients who underwent surgery from May 2009 to September 2019 were included in the study. We sutured and fixed the rectum directly to the sacrum without mesh.

We studied risk factors for recurrence and complications.

Result

There were 159 cases, 19 males and 140 females.

The median age was 77 years (range 17-100 years).

The median observation period was 1472 days (range 150-3910 days).

The median length of the prolapsed rectum was 54 mm (range 15-200 mm).

The average of intraoperative blood loss was 42 ml (range small to 660 ml).

Intraoperative blood loss was a mean of 42 ml (range small to 660 ml).

The median operative time was 230 minutes (range 126-645 minutes).

Recurrence was observed in 14 of 159 cases (8.8%).

The mean time to relapse was 278 days (range 8-1233 days).

No significant risk factors for recurrence were found in univariate analysis.

On multivariate analysis, blood loss was a significant risk factor for recurrence. ( $P < 0.05$ )

Complications of Clavien-Dindo classification grade II or higher were found in 21 patients (13.2%).

No significant risk factors for complications were revealed in the univariate analysis.

In multivariate analysis, the length of the prolapsed bowel was a significant risk factor for complications. ( $P < 0.05$ )

conclusion

Bleeding was a risk factor for recurrence and prolapsed rectum length was a risk factor for complications.

---

**P12-1 A case of laparoscopic surgery for retroperitoneal abscess and descending colon and dermal fistula after severe pancreatitis**

**Authors:** Lin Fung Chan, Nana Mamuro, Takashi Oogimi, Hiroshi Miyakita, Kazutake Okada, Seiichiro Yamamoto

**Organisation:** Surgery, Department of Surgery, Tokai University, School of Medicine, Kanagawa, Japan

**Abstract:**

The patient was 37 years old, male. 7 years ago he developed acute pancreatitis, infected pseudopancreatic cyst and left retroperitoneal abscess. He was treated with percutaneous drainage and antibiotics. Three years ago, he was diagnosed with a left iliopsoas abscess and treated with antibiotics. The patient came to the hospital with a complaint of fever. Abdominal CT scan revealed a left iliopsoas abscess. Percutaneous drainage was performed for the left iliopsoas abscess, and a CT scan immediately afterwards revealed a contrast agent leakage into the descending colon. We found . Lower gastrointestinal endoscopy showed no obvious fistula in the descending colon. Based on the clinical history, the patient was operated on for the diagnosis of left iliopelvic abscess-descending colon fistula after severe pancreatitis. The patient was operated on laparoscopically and ligation was started, but the retroperitoneum was rigidly adherent and ligation of the left side colon was difficult. It was determined that the perforation of the descending colon was confirmed. Since a perforation of the descending colon was confirmed, a partial resection of the descending colon was performed, and an intraluminal anastomosis of the sigmoid colon and the body cavity was performed. .

In acute pancreatitis, colonic complications such as colonic perforation and colonic stenosis are rare and complications in pancreatitis. It is estimated that less than 2% of the patients had a left-sided mesenteric attachment to the retroperitoneum. In this case, the left side mesentery was firmly attached to the retroperitoneum, and the bowel was dissected and anastomosed under the microscope, and the patient was opened. It was possible to avoid over-invasion, such as transition.

---

---

## P12-2 Comparative study of elderly and young people with sigmoid volvulus

**Authors:** Sei Kurokawa<sup>1</sup>, Fumitake Hata<sup>2</sup>, Tomomi Yajima<sup>2</sup>, Eiji Nishimori<sup>2</sup>

**Organisation:** <sup>1</sup>Internal Medicine, Sapporo Doto Hospital, Hokkaido, Japan;  
<sup>2</sup>Surgery, Sapporo Doto Hospital, Hokkaido, Japan

**Abstract:**

**Introduction:** Sigmoid volvulus is common in patients with mental illness and those with reduced physical function. As a treatment, it is in principle to release the axial torsion, and endoscopic reduction is often performed urgently. In this study, we examined the pathophysiology of sigmoid volvulus in the elderly and young.

**Methods:** Clinical findings of elderly people and young people are examined and evaluated for sigmoid volvulus, which has undergone endoscopic treatment. In our hospital, 22 patients (31 cases) underwent lower endoscopic treatment from April 2014 to May 2020, 15 people (21 cases) aged 65 and older who are considered elderly are group A and 7 people (10 cases) under 65 are group B. We compared the clinical data between the two groups and examined it retrospectively. **Results:** Male / female, group A 8/7, group B 1/6. The average age was 81.0 years for group A and 57.7 years for group B ( $p < 0.0001$ ). Performance status was 2.6 in group A, 1.7 in group B. Shock state was 3(14.3%) in Group A, 0(0%) in group B. Blood collection results were WBC, A group average 7451 /  $\mu$ l, B group average 6700 /  $\mu$ l, CRP, Group A average 3.25 mg / dl, Group B average 2.72 mg / dl. The examination success rate was 18(85.7%) in Group A and 9(90%) in Group B. Those who underwent colectomy after the endoscopy performed 6 (40%) in Group A, 3 (42.9%) in Group B. The prognosis (death) was 1 patient (6.7%) in group A and 0 (0%) in group B. **Conclusion:** Endoscopic removal showed no significant difference between the elderly and the young. However, there is no doubt that temporary improvement of general condition by deaeration is important for life prognosis in elderly people.

---

---

**P12-3 Which is more effective? Spinal cord stimulation or sacral nerve stimulation for functional anorectal pain**

**Author:** Shota Takano

**Organisation:** Department of Functional Anorectal Disorders, Coloproctology Center Takano Hospital, Kumamoto, Japan

**Abstract:**

**Background:** Studies indicate that spinal cord stimulation (SCS) improves pain symptoms of patients with functional anorectal pain (FARP). Also, there are some report that Sacral Nerve Stimulation (SNS) is good indication for ARP.

**Objective:** We are reporting on the value of SCS and SNS for FARP.

**Patients:** Patients with functional anorectal pain.

**Settings/Interventions:** All patients received SCS systems with dual leads. For SCS group, we placed the leads from Th11 to L2. For SNS group, we insert the leads caudal and placed S3. The evaluation procedure involved patient history, a physical examination, the visual analogue scale (VAS) for pain.

**Main Outcome Measures:** The VAS for pain were measured.

**Results:** 5 patients underwent SCS and 9 patient underwent SNS. One patient of SCS complains leg pain and the leads were removed. The mean visual analogue scale for pain significantly decreased from 89 to 39 in SCS group and 69 to 32 in SNS group .

**Limitations:** This study was limited by its small sample size and its lack of blinding and control.

**Conclusions:** This study showed that there is no difference of efficacy of SCS and SNS for FARP. Long-term follow-up studies are needed to verify these preliminary findings.

---

---

**P12-4 Evacuatory dysfunction after stapled hemorrhoidopexy: A case report of rectal pocket syndrome**

**Authors:** Taku Maejima<sup>1</sup>, Toru Kono<sup>2</sup>, Susumu Fukahori<sup>1</sup>, Daitaro Yoshikawa<sup>1</sup>, Hidenori Karasaki<sup>1</sup>, Yasumi Araki<sup>3</sup>, Tomoyuki Ohta<sup>4</sup>, Kazuo Nagashima<sup>5</sup>

**Organisation:** <sup>1</sup>Department of Surgery, Sapporo Higashi Tokushukai Hospital, Hokkaido, Japan; <sup>2</sup>Advanced Surgery Center, Sapporo Higashi Tokushukai Hospital, Hokkaido, Japan; <sup>3</sup>Department of Surgery, Kurume Proctology Center, Fukuoka, Japan; <sup>4</sup>Department of Medicine, Sapporo Higashi Tokushukai Hospital, Hokkaido, Japan; <sup>5</sup>Department of Pathology, Sapporo Higashi Tokushukai Hospital, Hokkaido, Japan

**Abstract:**

A 60-year-old male was referred to the authors' hospital with a persistent urge to defecate. The patient had undergone stapled hemorrhoidopexy (SH) for the treatment of prolapsed hemorrhoids approximately 10 years earlier. Shortly after surgery, he started to have difficulty with defecation and a false sense of urgency. Computed tomography showed a diverticulum-like fistula along the circumference of the rectum. Colonoscopy revealed communication between the diverticular cavity and the rectal lumen. The cavity contained a thumbnail-sized fecalith. The patient's urge to defecate dissipated when the fecalith was removed. The patient was diagnosed with rectal pocket syndrome secondary to SH. The lower rectum was transected, and the remaining rectum and the anal canal were anastomosed by manual suture. Temporary ileostomy with double orifices was performed. Three months later, the ileostomy was closed. The patient experienced no subsequent difficulty with defecation or urgency.

---

---

## P13-1 Post-operative incontinence after partial external sphincter resection for low rectal cancer

**Authors:** Yasue Irei<sup>1</sup>, Yasumitsu Saiki<sup>1</sup>, Shota Takano<sup>2</sup>, Mitsuko Fukunaga<sup>1</sup>, Masafumi Tanaka<sup>1</sup>, Takayuki Suzuki<sup>1</sup>, Daisaku Kuwahara<sup>1</sup>, Kazutaka Yamada<sup>1</sup>

**Organisation:** <sup>1</sup>Department of Surgery, Coloproctology Center Takano Hospital, Kumamoto, Japan; <sup>2</sup>Department of Functional Anorectal Disorder, Coloproctology Center Takano Hospital, Kumamoto, Japan

### Abstract:

«Purpose» In our institution, partial external sphincter resection (ESR) categorized as combined resection partially surrounding the tumor with internal anal sphincter was performed for both resection margin and anal function. The aim of this study was to evaluate which tumor location of partial ESR influence on post-operative incontinence. «Method» The data were retrospectively collected in 36 patients who underwent partial ESR from April 2001 to March 2013 in our institution. Then patients were divided into 3 groups with tumor main location: anterior, lateral, and posterior part. We evaluated the post-operative recovery of bowel frequency and score for fecal incontinence after stoma closure as baseline (average post operative month was  $9 \pm 3.2$ ) and over one year after operation (average post operative year was  $2.5 \pm 1.3$ ). We also evaluated the post-operative change of maximum resting pressure (MRP), and maximum squeezing pressure (MSP). «Result» Three groups are consisted 18 patients (50%) in anterior group, 12 (33.3%) in lateral group, and 6 (16.7%) in posterior group. There was no significant difference among 3 groups in age, sex ratio, tumor depth, circular invasion rate, level of ISR and the type of anastomosis. There was no significant reduction of bowel frequency on all groups. But, significant reduction of Wexner's score was observed in anterior group ( $p=0.03$ ), which was  $9.1 \pm 6.0$  (3-15) at baseline and  $4.0 \pm 4.2$  (0-10) ( $n=7$ ) at over one year after operation. In anterior group, significant increase of MRP ( $p=0.006$ ), and MSP ( $p<0.0001$ ) was also observed. «Conclusion» This study indicates that anterior group was relatively good outcome than the other groups on post-ESR incontinence. The recovery of Wexner's score was achieved 4.6 at over one year after operation.

---

---

## P13-2 LARS after lower rectal cancer surgery

**Authors:** Emi Akizuki, Kenji Okita, Toshihiko Nishidate, Koichi Okuya, Atsushi Hamabe, Masayuki Ishii, Ichiro Takemasa

**Organisation:** Department of Surgery, Surgical Oncology and Science, Department of Surgery, Surgical Oncology, Sapporo Medical University, Hokkaido, Japan

**Abstract:**

Objective; Standard surgery for lower rectal cancer is sphincter preserving surgery (SPS) with total mesorectal excision (TME). This procedure includes laparoscopic TME (lap-TME) to trans-anal TME (ta-TME) and inter sphincter resection (ISR).

Low anterior resection syndrome (LARS) is a defecation disorder which frequently occur after SPS. However, the etiology and natural course of LARS remains unclear.

We planned a retrospective consecutive study to clarify the postoperative course of LARS after SPS.

Methods ; There were 26 patients following TME (12 patients after lap-TME, 14 patients after ta-TME) and 57 patients after ISR. LARS score for 1 month to 1 year after surgery were analyzed.

Results ; The LARS score gradually decreased depending on the elapsed time in all surgical procedures. The median LARS scores for lap-TME were (1, 3, 6, 9, 12months after surgery) (34, 31, 29, 30, 20), ta-TME (37, 38, 33, 27, 22) and ISR (39, 37, 36, 34, 32). The patient rates of major LARS one year after stoma closure were 33% after lap-TME and 44% after ta-TME, and 55% after ISR.

Discussion; Limitation for this study is that the difference in surgical procedure depends on the tumor distance from the anal verge. We cannot simply conclude that Lap-TME cause less LARS than ta-TME from our patient settings.

Conclusion; Approximately half of the patients suffer major LARS one year after surgery.

---

---

## P13-3 Investigation of local surgical treatment for intestinal stoma prolapse

**Authors:** Makoto Kosuge, Ken Eto, Takahiro Kitagawa, Tomotaka Kumamoto, Hiroshi Sugano, Saori Yatabe, Kai Neki, Masahisa Ohkuma, Toru Ikegami

**Organisation:** Department of Surgery, The Jikei University School of Medicine, Tokyo, Japan

**Abstract:**

**Background:**The complications of stoma construction are divided into those that occur early and late. In those, once stoma prolapse is occurred, it is not only difficult to manage, but also causes bleeding or necrosis of the prolapsed intestine, and often requires emergency surgery. In addition, depending on the condition of the patient, it may be difficult to relocate or reconstruct the stoma via midline laparotomy. We have performed local surgical approach for stoma prolapse. **Methods:**We have performed local surgical approach including peri-stoma incision or resection of prolapsed intestine with a stapling device, and re-creation of stoma for 8 patients (male: female = 5:3) between 2008 and 2016. The surgical outcomes of the technique were reviewed. Median observation period was 891.5 (171-1,223) days. **Results:**The patients' backgrounds included 69 (53-80) years for age, 23 (17.2-27.8) for body mass index, 277.5 (69-1,854) days for the duration of prolapsed colostomy. The operative time was 58 (20-70) minutes, and the blood loss was less than 10 ml, except for one case with 850 ml for Klippel-Trenaunary-Weber syndrome. The duration of post-surgical hospitalization was 8 (5-33) days. Although no case had early postoperative complications, two cases previous history of parastomal hernia and stoma relocation had late parastomal hernia. No patients experienced recurrent stoma prolapse. **Conclusion:**Local surgical approach for prolapsed colostomy showed acceptable outcomes, although care must be taken for possible history of parastomal hernia.

---

---

## P14-1 High output ileostomy following surgery for ulcerative colitis

**Authors:** Yuki Horio<sup>1</sup>, Motoi Uchino<sup>1</sup>, Toshihiro Bando<sup>1</sup>, Ryuichi Kuwahara<sup>1</sup>, Tomohiro Minagawa<sup>1</sup>, Kurando Kusunoki<sup>1</sup>, Naohito Beppu<sup>2</sup>, Masataka Ikeda<sup>2</sup>, Hiroki Ikeuchi<sup>1</sup>

**Organisation:** <sup>1</sup>Department of Inflammatory Bowel Disease, Hyogo College of Medicine, Hyogo, Japan; <sup>2</sup>Department of Lower Gastroenterological Surgery Division, Hyogo College of Medicine, Hyogo, Japan

### **Abstract:**

**Background:** The pathogenesis of high output ileostomy (HOS) following surgery for ulcerative colitis (UC) is unknown and therapeutic strategies have yet to be established. The purpose of this study was to evaluate characteristics, clinical findings, and therapeutic options in patients with HOS that developed following surgery for UC.

**Methods:** The records of all UC patients (n=430) who underwent surgery between January 2011 and November 2018 at our institution were subjected to analysis, with HOS defined as maximum output  $\geq 2000$  ml/day for  $\geq 2$  days.

**Results:** A total of 13 (3%) (10 males, 3 females) of the enrolled UC patients were affected by HOS. Of those, the median age at surgery was 48 years (range 24-61 years). Clinical findings showed that HOS occurred a mean 12 days (7-29 days) after the operation. The median amount of discharge from the ileostomy was 2000 ml (2000-5700), while eGFR ( $\geq G3a$ ) was seen in 5 (38%) cases and electrolyte abnormalities in 11 (84%). The cause of HOS was cytomegalovirus infection in 1 case, UC-related enteritis in 1, and high output in 1, while that was unclear in the other 10. Treatments given included fluid and antidiarrheal therapies, while ganciclovir was administered for cytomegalovirus infection and golimumab for UC-related enteritis. Fluid therapy was required after discharge in 1 patient, while another was re-hospitalized for dehydration and stoma closure was performed soon thereafter.

**Conclusion:** It is important to be aware of possible late onset time and the possible need for hospital readmission for dehydration in patients who develop HOS. Effective basic treatment methods were found to be fluid and antidiarrheal therapies, though it is also necessary to distinguish between infectious and UC-related enteritis.

---

---

**P14-2 The component changes of lysophospholipid mediators in ulcerative colitis and colitis-associated cancer**

**Authors:** Hirofumi Sonoda, Chieko Kitamura, Hiroyuki Anzai, Yuichiro Yokoyama, Hiroaki Ishii, Yuki Iida, Koji Muroto, Shigenobu Emoto, Manabu Kaneko, Kazuhito Sasaki, Kazushige Kawai, Hiroaki Nozawa, Soichiro Ishihara

**Organisation:** Department of Surgical Oncology, The University of Tokyo, Tokyo, Japan

**Abstract:**

**[Introduction]**

Lysophospholipids (LPLs) are known to play an important role in the development, proliferation, invasion and metastasis of several kinds of cancers. In recent years, a phospholipid analysis method using liquid chromatography / tandem mass spectrometry (LC-MS / MS) has been developed, and it has become possible to obtain high detection sensitivity and quantitiveness for LPLs even with a small amount of tissues.

**[Purpose]**

Lysophospholipids derived from sporadic colorectal cancer (S-CRC) tissues and ulcerative colitis (UC) -associated cancer (UC-CRC) tissues were analyzed using LC-MS / MS to identify LPLs that specifically change in S-CRC and UC-CRC.

**[Methods]**

Cancer tissues and normal tissues were harvested from the surgically resected specimens of S-CRC (n = 11) and of UC-CRC (n = 3), respectively. After extracting LPLs from these tissues, the amounts of lysophosphatidic acid (LPA) and lysophosphatidylserine (LPS) were quantified using LC-MS / MS.

**[Results]**

LPA levels were  $41.6 \pm 2.3$  nmol / g in normal tissues,  $22.7 \pm 1.5$  nmol / g in S-CRC,  $15.5 \pm 1.3$  nmol / g in UC non-cancerous tissues, and  $52.1 \pm 15.0$  nmol / g in UC-CRC, respectively (p=0.022). LPS levels were  $88.6 \pm 4.1$  nmol / g in normal tissues,  $211.8 \pm 14.4$  nmol / g in S-CRC,  $156.4 \pm 6.2$  nmol / g in UC non-cancerous tissues, and  $413.2 \pm 50.3$  nmol / g in UC-CRC, respectively (P = 0.0003).

**[Conclusion]**

Compared with normal tissues, LPA was decreased and LPS was increased about 2-fold in UC non-cancerous tissues. In UC-CRC, LPA tended to increase, and LPS was increased about 4-fold. These results suggest that LPS signaling may be involved in ulcerative colitis and colitis-associated carcinogenesis.

---

**P14-3 Conventional side-to-side anastomosis causes intestinal stasis by reduced colonic motor function of the suturing site**

**Authors:** Toru Kono<sup>1,2</sup>, Mitsuo Shimada<sup>2</sup>, Kunitsugu Kubota<sup>2,3</sup>, Atsushi Takata<sup>2</sup>, Jun Higashijima<sup>2</sup>

**Organisation:** <sup>1</sup>Institute of Biomedical Research, Sapporo Higashi Tokushukai Hospital, Hokkaido, Japan; <sup>2</sup>Department of Digestive Surgery and Transplantation, Tokushima University Graduate School of Biomedical Sciences, Tokushima, Japan; <sup>3</sup>Tsumura Kampo Research Laboratories, Tsumura & Co., Ibaraki, Japan

**Abstract:**

Indispensable recurrence begin at the anastomotic site and adjacent oral site after bowel resection in Crohn's disease (CD). We hypothesized that the stasis of intestinal contents, due to decreased intestinal motor function at the anastomotic site, aggravates the recurrence of CD. This study aimed to compare the intestinal motor function in different types of enterotomy and suture of the intestinal wall.

For surgical treatment, short transverse enterotomy of 0.5 cm or longitudinal enterotomy of 1.0 cm was made on the isolated colon segments. Transverse (TS), longitudinal (LS), or Heineke-Mikulicz (HM) configuration suture was applied for single-layer closure. Intestinal motility was evaluated based on changes in intraluminal pressure and a spatiotemporal map of the segment. Intestinal transit was evaluated by the transit time of plastic beads in the segment.

A decrease in colonic diameter was observed around the suture site in the LS group, although there was no change in the TS and HM groups. Furthermore, the LS group decreased hydroxy- $\alpha$ -sanshool-induced contraction at the suture site and at its anal side.

The peak amplitude and the AUC of the intraluminal pressure at the anal side of the sutured region were elevated, accompanying contractions of the segments, which were attenuated in the LS group compared with the other surgical treatment groups. Intestinal transit time was most prolonged in the LS group (non-treatment: 20.0 $\pm$ 1.5 min; LS: 47.3 $\pm$ 3.7 min).

For preventing intestinal stasis at the anastomotic site, conventional side-to-side anastomosis might be avoided in CD. When longitudinal enterotomy is needed for performing the anastomosis, HM configuration suturing (i.e., Kono-S anastomosis) could diminish intestinal stasis at the anastomotic site.

---

---

## P14-4 Pyloric stenosis as an initial symptom in Crohn's disease: a case report

**Authors:** Tomohiro Kurokawa, Giichiro Tsurita, Yuki Azuma, Yoshiaki Kanemoto, Kentaro Yazawa

**Organisation:** Department of Surgery, IMSUT Hospital, The Institute of Medical Science, The University of Tokyo, Tokyo, Japan

**Abstract:**

Crohn's disease affects the entire digestive tract, mainly targeting the terminal ileum. We report a case of pyloric stenosis that led to Crohn's disease diagnosis.

A 27-year-old man developed epigastric pain and consulted a physician 9 months before diagnosis. He was diagnosed with gastritis and given oral medications. Lacking improvement after this treatment, he visited our hospital. There was marked gastric distension due to pyloric stenosis, and retrograde double-balloon endoscopy revealed stenosis and ulcerations in the small intestine. He was diagnosed with extraintestinal lesions associated with Crohn's disease of the small intestine.

The patient's symptoms improved with proton pump inhibitor (PPI), mesalazine granules, and prednisolone. At 5 months after diagnosis, he was admitted for restenosis. Treatment using infliximab (IFX), PPI, mesalazine granules was started. At 3 years after diagnosis, to alleviate abdominal bloating, endoscopic balloon dilatation was performed twice without improvement. Gastrojejunal bypass was then performed; the condition has since been controlled using IFX, mesalazine granule type, and PPI.

Crohn's disease with gastroduodenal lesions was first reported by Ross in 1949; more than 200 cases have since been reported and account for 0.5–5% of all cases of Crohn's disease. However, the frequency of gastroduodenal lesion occurrence varies depending on whether microlesions are counted in making the diagnosis. Crohn's disease with pyloric stenosis is very rare; Crohn's disease diagnosed based on gastroduodenal stenosis is even rarer. The findings from our case study suggest that Crohn's disease should be a differential diagnosis for a patient with pyloric stenosis.

---

---

## P14-5 A case of Crohn's disease treated with ustekinumab during pregnancy

**Authors:** Minako Sako, Naoki Yoshimura, Akira Sonoda, Masayuki Fukata, Masakazu Takazoe

**Organisation:** Center for Inflammatory Bowel Disease, Tokyo Yamate Medical Center, Tokyo, Japan

### **Abstract:**

#### **Purpose**

The patients with Crohn's Disease (CD) might experience pregnancy under the treatment with biologics. Recently, it is understood that anti-TNF agents are safe for pregnant patients. Ustekinumab (UST) is a monoclonal antibody agent which prevents the binding of interleukin-12/23 to receptors on immune cells by targeting the p40 unit. It has been demonstrated to produce clinical response in patients with moderate-to-severe CD and is also used as remission maintenance. Today, there is paucity of data describing the use of UST in the pregnant population.

#### **Case**

The patient is a 34-years -old woman with ileocolic CD for twelve years. She underwent subtotal colectomy one year before her second pregnancy and UST was started as remission maintenance therapy. No relapse had been seen at the conception and during pregnancy. UST was injected every two months until 23rd week of gestation. She got healthy girl weighed 2596g at week 38. Her blood level of UST was 267.7ng/ml at the delivery and 756.5ng/ml in cord blood. After confirmation that UST had not been detectable in the newborn at 6 month she received BCG vaccination. The baby has been growing up favorably.

#### **Conclusion and discussion**

Our CD patient under surgical remission treated with UST could give birth to healthy baby at full term without no complication. Since anti-TNF agents are detectable with high concentration in cord blood and in newborns until around six months, it is recommended to give live vaccines to them at about one year. Similar as anti-TNFs, in this case, the blood concentration level of UST in cord blood was high and it became undetectable at six month. We should work continuously to consider whether UST cause no problems in course of pregnancy, delivery, and babies' growth.

---

---

## P15-1 Analysis of the bacterial flora in acute appendicitis

**Authors:** Kumpei Honjo<sup>1</sup>, Hirotaka Momose<sup>1</sup>, Kota Amemiya<sup>1</sup>, Yuki Tsuchiya<sup>1</sup>, Toshiaki Hagiwara<sup>1</sup>, Hisashi Ro<sup>1</sup>, Shinya Munakata<sup>1</sup>, Kiichi Sugimoto<sup>1</sup>, Daisuke Motooka<sup>2</sup>, Shota Nakamura<sup>2</sup>, Shin Watanabe<sup>3</sup>, Kazuhiro Sakamoto<sup>1</sup>

**Organisation:** <sup>1</sup>Department of Coloproctological Surgery, Juntendo University Faculty of Medicine, Tokyo, Japan; <sup>2</sup>Department of Infection Metagenomics, Genome Information Research Center, Research Institute for Microbial Diseases, Osaka University, Osaka, Japan; <sup>3</sup>Department of Microbiome Research, Juntendo University Faculty of Medicine, Tokyo, Japan

### Abstract:

**Introduction:** While there have been reports on the bacterial flora in acute appendicitis at the culture level, there is still a need for elucidation. In recent years, analyses via next generation sequencers using 16S rRNA has revolutionized our comprehension of the ecology of gut bacteria in association with various diseases. Here, we report our analysis of appendiceal flora from surgical specimens.

**Target/Methods:** Twelve emergency surgical patients diagnosed with acute appendicitis between August 2018 and February 2019, in whom preoperative antimicrobial treatment was not administered prior to laparoscopic appendectomy at which point appendix specimens were obtained, were included. Catarrhalis was found in one patient, phlegmonous in five, and gangrenous in six, with fecaliths in four patients. Moreover, 13 patients in whom appendices were resected simultaneously due to right-sided colon cancer served as the control group.

**Results:** There were significant differences in observed species ( $p=0.047$ ); however, no significant differences in the Chao1 and Shannon indices were seen among  $\alpha$  diversity analyses. Alternatively, the R statistic was 0.2094 and significance was 0.002 for unweighted and the R statistic was 0.04193 and significance was 0.16 for weighted  $\beta$  diversity analyses. In the phylum-level analysis, there were no significant differences in bacteroidetes (appendicitis: 49.1%, control: 31.6%), firmicutes (appendicitis: 27.9%, control: 31.6%), proteobacteria (appendicitis: 15.3%, control: 22.1%), and fusobacteria (appendicitis: 6.0%, control: 8.5%) between the two groups.

**Conclusion:** Although there have been no studies with comparisons to normal appendices to date and fusobacteria has been reported to be prevalent, this tendency was not observed in this study.

---

---

**P15-2 Transurethral balloon catheterization versus suprapubic cystostomy in the perioperative period of laparoscopic colon cancer surgery: a randomized controlled study**

**Authors:** Sayaka Nagao, Toshiyuki Enomoto, Nanako Kakizaki, Yusuke Akimoto, Nobue Futawatari, Junji Maehara, Manabu Watanabe, Koji Asai, Yoshihisa Saida

**Organisation:** Department of Surgery, Toho University Ohashi Medical Center, Tokyo, Japan

**Abstract:**

**[Purpose]** Pain and abnormal sensation associated with transurethral balloon catheterization (TUC) during the perioperative period of laparoscopic colectomy can cause postoperative patient distress and urinary tract infection. **[Methods]** We conducted a randomized prospective controlled study of 100 patients undergoing laparoscopic colectomy to investigate the effects of suprapubic cystostomy (SPC), a non-transurethral procedure, in decreasing patient distress. Age, sex, procedure type, intraoperative blood loss, intraoperative urine volume, and duration of hospital stay were comparable between TUC and SPC groups. **[Results]** Comparison before and after catheter removal using the Numerical Rating Scale showed that abnormal sensation was significantly improved in the TUC group and was nearly absent in the SPC group. Comparison between groups before removal showed significantly greater abnormal sensation in the TUC group. Complications and urinary tract infection were not observed in either group. **[Conclusions]** Perioperative urinary drainage with SPC appears useful for improving the quality of life for patients undergoing laparoscopic colectomy.

---

---

**P15-3 Incisional negative pressure wound therapy decrease perineal wound infection after abdomino perineal resection**

**Authors:** Tomoaki Kaneko, Kimihiko Funahashi, Mitsunori Ushigome, Satoru Kagami, Yasuo Nagashima, Takamaru Kouda, Yasuyuki Miura, Kimihiko Yoshida, Syou Yoshino, Nobuto Yamazaki, Akiharu Kurihara

**Organisation:** Department of Gastroenterological Surgery, Toho University Omori Medical Center, Tokyo, Japan

**Abstract:**

**Background :** Surgical site infection rate (SSI) of perineal wound after abdominoperineal resection (APR) is high. Incisional negative pressure wound therapy (INPWT) is new use of NPWT for high risk closed wound.

**Aim :** The aim of this study is to evaluate the impact of INPWT in preventing SSI of perineal wound after APR.

**Method :** This retrospective study was comprised 146 patients underwent APR at Toho University Omori Medical Center from December 2004 to December 2019. The patient from December 2004 to August 2014 were managed by conventional gauze dressing as control group and the patients from September 2014 to December 2019 were managed by INPWT.

1) Patient character, surgical factors and SSI rate were compared between INPWT Group and control group

2) Patient character, surgical factors and INPWT use were compared between the SSI group and non-SSI group. Then the risk factors for SSI were examined.

**Result:** 1) In INPWT group, the smoking rate, drain via perineal wound rate were significant lower ( $p < 0.05$ ,  $p < 0.001$ ), operation time was significantly longer ( $p < 0.05$ ) and intra-operative blood loss was significant littler than in control group ( $p < 0.01$ ). SSI rate in INPWP group was significantly lower than in control group. ( $p < 0.05$  : 7.8% vs 32.6%).

2) In a univariate analysis, SSI(+) group had significantly higher in Laparoscopic surgery rate ( $p < 0.01$ ), INPWT-free rate ( $p < 0.01$ ) and significant more intra-operative blood loss ( $p < 0.05$ ) than SSI(-) group.

Preoperative radiotherapy rate was added to these factors and multivariate analysis was performed for four factors. The result showed that INPWT-free was independent risk factor for perineal wound SSI.

**Conclusion:** This study suggests that INPWT might be effective in preventing perineal wound infection after APR.

---

---

**P15-4 Intraoperative colonoscopy for the assessment in anterior resection for colorectal cancer**

**Authors:** Toshiyuki Enomoto, Sayaka Nagao, Nanako Kakizaki, Nobue Futawatari, Junji Maehara, Yoko Hashimoto, Yusuke Akimoto, Takuya Nagata, Koji Asai, Manabu Watanabe, Yoshihisa Saida

**Organisation:** Department of Surgery, Toho University Ohashi Medical Center, Tokyo, Japan

**Abstract:**

Anastomotic leakage after stapled anastomosis is one of the most devastating complications after anterior resection for colorectal cancer. The previously reported overall incidence of anastomotic leakage after anterior resection spans a wide range from 0 to 27 % in Japan. The aim of this study was to evaluate the impact of intraoperative colonoscopy on postoperative anastomotic leakage after anterior resection for colorectal cancer. This study is a retrospective review of 926 consecutive patients who underwent elective anterior resection for colorectal cancer with circular stapled anastomosis between January 2006 and December 2016 at Toho University Ohashi Medical Center, Tokyo, Japan. We observed abnormal findings on intraoperative colonoscopy in 17 of 720 cases (2.4%). As anastomotic leakage commonly occurs in patients with abnormal findings on intraoperative colonoscopic testing, countermeasures such as diverting stoma construction, reanastomosis or anastomotic suturing need to be taken. Procedural accidents can be avoided by detecting abnormal findings on intraoperative endoscopic testing. Intraoperative endoscopy could greatly contribute to improving surgical safety.

---

---

**P15-5 A case of de Garengeot hernia with concomitant acute appendicitis**

**Authors:** Tomotaka Kumamoto, Takahiro Kitagawa, Hiroshi Sugano, Saori Yatabe, Kai Neki, Masahisa Ohkuma, Makoto Kosuge, Ken Eto, Toru Ikegami

**Organisation:** Department of surgery, The Jikei University School of Medicine, Tokyo, Japan

**Abstract:**

We had a 61-year-old female case hospitalized for bronchiolitis obliterans. She had a right inguinal bulge 3 cm in diameter. Contrast-enhanced abdominal computed tomography showed herniation of the appendix in the right inguinal region, with the diagnosis of a right inguinal hernia involving the appendix. Manual reduction of incarceration was not successful, but she had neither nausea, vomiting nor abdominal pain. Blood works showed no systemic inflammation, and no ischemic findings in the appendix mucosa was observed on computed tomography. Therefore, we performed an elective hernia repair by the anterior approach. The intraoperative findings showed the hernia sac was found in the right femoral ring, and herniated structure was a mildly swollen appendix, representing de Garengeot hernia. We also performed appendectomy and sutured the femoral ring without using a mesh. In the resected specimens, congestive and inflammatory changes at the tip of the appendix were noted. Her postoperative course was uneventful, and she was discharged 5 days after surgery. We report a case of De Garengeot hernia with literature reviews.

---

---

## P16-1 Results of treatment of colorectal cancer complicated by peritoneal carcinomatosis

**Authors:** Alexei Vladimirovich Shelekhov<sup>1,2</sup>, Viktoria Vladimirovna Dvornichenko<sup>1,2</sup>, Irina Viktorovna Ushakova<sup>1</sup>, Rodion Ismagilovich Rasulov<sup>2</sup>, Andrey Aleksandrovich Medvednikov<sup>2</sup>, Sergei Ivanovich Radostev<sup>1</sup>, Dmitrii Dmitrievich Morikov<sup>2</sup>

**Organisation:** <sup>1</sup>Cathedra of oncology, Irkutsk State Medical University, Irkutsk, Russia; <sup>2</sup>Irkutsk state medical Academy of postgraduate education-branch of the Ministry of health of the Russian Federation, Irkutsk, Russia

### **Abstract:**

**Materials and methods:** Treatment was performed in 12 (8F/4M) patients with localization of the malignant process in the rectum and colon, with histologically verified parietal and visceral carcinomatosis. Organ resections and peritoneumectomy were performed only to remove tumor nodes while preserving the maximum unaffected areas of the small and large intestine and other organs. After achieving complete cytoreduction, all patients underwent intraperitoneal lavage with saline solution and 30 mg of mitomycin C, heated to a temperature of 42 with closed eyes. Continuous supply of solution to the abdominal cavity and aspiration was carried out using the device is carried out on the device Performer HT (Italy). 4 weeks after surgery, patients were prescribed adjuvant chemotherapy.

**Results:** The completed volume of cytoreduction was considered complete in all cases (CC-0). All patients in the remote postoperative period at 3 and 6 month postoperative period the control tests including: endoscopy of the stomach and colon, x-ray examination of chest organs, abdominal ultrasound, CT of the abdomen and pelvis. In the early postoperative period (2 months after the operation), 1 patient died against the background of the progression of the main disease (the appearance of MTS in the lungs, the development of multiple organ failure).The five-year cancer-specific survival rate is 6.7%. The main percentage of patients ' death from cancer progression occurs during 2-3 years of follow-up. The median survival rate was 20.5 months.

**Conclusion:** Cytoreduction with intraoperative intraperitoneal hyperthermic chemotherapy is a promising method of treating patients with peritoneal carcinomatosis in colon cancer.

---

---

## P16-2 Anal examination in legal medicine

**Author:** Hadjazi Omar

**Organisation:** forensic medicine, University of SBA, Sidi Bel Abbés, Algeria

### **Abstract:**

#### INTRODUCTION

Sexual abuse is a problem of epidemic proportions in the world especially anal assault, and create health and legislative problems. It affects men and women, girls and boys.

#### OBJECTIVE

The purpose of this study is to provide a general overview of the key components of anal forensic sexual assault examination highlighting. Most forensic examiners confront some difficulty with interpretation of anal injury.

#### METHODS

In this retrospective descriptive study of sexual assault in Sidi Bel Abbès University Hospital over a 04 year period (between Jan 2016 and December 2019). Standardized forms were used to collect data from sexual assault reports archived in the Sexual unit of Department of Forensic Medicine.

#### RESULTS

- Anal injuries heal quickly and most often leave no residual injuries Unless the victim is examined within 24–48 hours of the event, it is very unlikely that any injury will be seen;
- There may be no signs of injury at all;
- However, consensual sexual activity may also sometimes cause genital injury.

#### CONCLUSION

Detection of specific injury (sexual assault) requires a methodical approach. the clinical forensic assessment should occur as soon as possible.

All health professionals who have the potential to encounter victims of sexual assault should have some understanding of functional anal anatomy, functions and healing processes to interpret its significance.

---

---

## **P16-3 Mucopexy-Recto Anal Lifting (MuRAL): a promising solution for managing various anorectal diseases**

**Authors:** Claudio Eduardo Pagano<sup>1</sup>, Marco Venturi<sup>2</sup>, Guido Benegiamo<sup>1</sup>, Pierluigi La Piana<sup>1</sup>, Contardo Vergani<sup>2</sup>

**Organisation:** <sup>1</sup>Presidio Ospedaliero Vizzolo Predabissi ASST Milano-Martesana - UOC Chirurgia Generale, Milano, Italy; <sup>2</sup>Department of Pathophysiology and Transplantation. UOSD Day/Week Surgery, University of Milan, Milano, Italy

### **Abstract:**

#### **Purpose**

Good results have been achieved for over 2 decades with transanal stapled surgery in addressing different anorectal diseases involving mucosal or full-thickness rectal prolapse, nevertheless a number of severe complications have been reported.

The present study reports the midterm results of the novel Mucopexy-Recto Anal Lifting (MuRAL) in a large series of patients affected by symptomatic hemorrhoids, rectocele and internal, or external rectal prolapse (< 5cm)

#### **Methods**

Patients enrolled after a preoperative protocol were submitted to MuRAL, consisting of arterial ligation and mucopexy performed selectively at 6 locations. In patients with rectocele/rectal prolapse MuRAL was combined with a modified Block procedure. Patients were followed by independent observers. Procedure duration, hospital stay, NRS, ODS and satisfaction scores, and recurrence rate were recorded.

#### **Results**

Five hundred eighteen patients have been treated: A) 440 with symptomatic hemorrhoids, B) 66 with rectocele and C) 12 with complete external rectal prolapse. Mean procedure duration was 23, 35.7 and 39.5 min, mean hospital stay was 1.2, 1.9 and 2.7 days, mean NSR was 3,1, 3.3, 3.4, mean duration of follow up was 1179, 909 and 848 days. At one-year follow-up 89.5%, 82%, and 62.5% reported excellent/good satisfaction, recurrence rate was 5.4%, 0% and 7.1% in patients of group A, B and C, respectively. ODS score significantly improved in group B.

#### **Discussion**

MuRAL offers a safe and effective minimally invasive solution for managing symptomatic hemorrhoids, rectocele and rectal prolapse, with no severe complications and low recurrence rate. In the event of recurrence, a revisional MuRAL can be easily performed. Further randomized studies, with larger series and longer follow-up are needed.

---

---

## P16-4 Giant mesenteric cyst masquerading as ureteric colic

**Authors:** Adam O'Connor, Rabia Ghani, Matthew Jaffa, Shariq Sabri

**Organisation:** Department of General surgery, Tameside General Hospital, Salford, United Kingdom

**Abstract:**

Mesenteric cysts are rare tumours that can occur anywhere along the gastrointestinal tract. It is notoriously non-specific in terms of its symptomology and diagnosis. Often it has an innocuous course of vague, poorly localised abdominal pain and at its worse can cause perforation, peritonitis and death. Essentially, it can mimic other types of abdominal pathology and this is what contributes to difficulty in diagnosis, which is ordinarily in the form of abdominal imaging via ultrasound scan or computed tomography (CT) of the abdomen. Surgery to remove the cyst via laparotomy is the optimal treatment. Clear resection margins equate to a cure. A 24 year old female patient, with no past medical history, presented to our emergency department following 2 weeks of generalised lower back and left sided flank pain, radiating into the left groin. urgent CT urogram was arranged. This revealed a large cystic mass occupying the upper 2/3 of the left hemiabdomen. The mass measured 23.7x11.7x11.6cm. The mass exerted mass effect on the stomach, pancreas, descending colon and left kidney, thus accounting for her abdominal pain and microscopic haematuria. Scan imaging was discussed at the local gastrointestinal radiology meeting and a diagnosis of likely large mesenteric cyst was made. Discussion then followed at the local colorectal and upper gastrointestinal surgery multidisciplinary meeting, where a decision was made to perform laparotomy to remove this cyst. To date, she has been reviewed several times in the surgical clinic, with repeat CT scans and MRI scans showing no recurrence of the cyst and no signs of any developing collection.

---



**We strive to improve human health  
and contribute to a society  
enriched by smiles**



TAIHO PHARMACEUTICAL CO., LTD.

<https://www.taiho.co.jp/english/>

# *Asia in Mind*

---

In the area of stoma care, ALCARE offers a high quality range of products based on original technology and delivered under its own trusted brand.

The company's internal slogan is “Asia in Mind”, which refers to our commitment to provide ostomates with the highest possible QOL. With this aim in mind, ALCARE manufactures distinctive products for Asian countries.





処方箋医薬品<sup>注</sup>

クロライドチャンネルアクチベーター

薬価基準収載

**アミティーザ<sup>®</sup>カプセル** 12 $\mu$ g  
24 $\mu$ g

ルビプロストンカプセル

Amitiza<sup>®</sup> Capsules 12 $\mu$ g  
24 $\mu$ g

注) 注意—医師等の処方箋により使用すること

「効能・効果」、「用法・用量」、「禁忌を含む使用上の注意」、「効能・効果に関連する使用上の注意」、「用法・用量に関連する使用上の注意」等については添付文書をご参照ください。

製造販売元 **マイランEPD合同会社**

東京都港区虎ノ門5丁目11番2号

〔資料請求先〕 くすり相談室 フリーダイヤル 0120-938-837

 **Mylan**

2018年11月作成