International colorectal research summit Vilnius

Pavadinimas lietuviškai??

Pranešimų tezės

P R O G R A M M E

ARTIS HOTEL
Totoriu str. 23, Vilnius
LITHUANIA

2016 05 13

9.15-9.30	**Opening speech: Prof. Narimantas Evaldas Samalavicius (President, Lithuanian Society of Coloproctologists), Phil Caushaj (President-elect, The International Society of University Colon and Rectal Surgeons)**
9.30-13.00	**Lithuania-Korea Joint Session (Part I and II)**

Part I. Moderators: Narimantas Evaldas Samalavicius (Lithuania), Ho-Kyung Chun (Korea)

9.30-09.45	Advantages of robotic approach in the surgical treatment of lower rectal cancer. *Nam Kyu Kim (Yonsei University, Korea).*
9.45-10.00	Local rectal cancer treatment: options and outcomes. *Narimantas Evaldas Samalavicius (National Cancer Institute, Lithuania).*
10.00-10.15	MIS for CRC: evidence and issues. *Sung-Bum Kang (Seoul National University, Korea).*
10.15-10.30	ESD in colorectal tumor. *Eui Gon Youk (Daehang Hospital, Korea).*
10.30-10.45	Transanal endoscopic microsurgery for rectal tumors: single center experience. *Audrius Dulskas (National Cancer Institute, Lithuania).*
10.45-11.00	Recent update in rectal cancer surgery. *Ji Yeon Kim (Chungnam National University, Korea).*
11.00-11.30	**Coffee break.**

Part II. Moderators: Audrius Dulskas (Lithuania), Jong Hun Kim (Korea)

11.30-11.45	Modification of angiotensin-induced colonic motility in experimental colitis. *Suhn Hee Kim (Chonbuk National University, Korea).*
11.45-12.00	Surgery for rectal prolapse – single center experience. *Tomas Poskus (Vilnius University Hospital Santariskiu Klinikos, Lithuania).*
12.00-12.15	Laparoscopic Hartmann's colostomy repair. *Won Cheol Park (Wonkwang University, Korea).*
12.15-12.30	Complication after colonoscopy. *Hyung Jin Kim (Catholic University, Korea).*
12.30-12.45	OVESCO clips for treatment of complicated GI fistulas. *Gintautas Radziunas (National Cancer Institute and Vilnius University Hospital Santariskiu Klinikos, Lithuania).*
12.45-13.00	Surgical treatment for ischemic colitis. *Kyu Joo Park (Seoul National University, Korea).*
13.00-14.00	**Lunch break**

Part III. 14.00 – 16.00 Moderator: Tomas Poskus (Lithuania)

14.00-14.15	History of lateral LN dissection with nerve preservation for rectal cancer in Japan. *Takeo Mori (Japan).*
14.15-14.30	Japanese D3 dissection for colon cancer. *Keiichi Takahashi (Japan).*
14.30-14.45	Etiology of LAR syndrome. *Keiji Koda (Japan).*
14.45-15.00	Transanal endoscopic proctectomy for rectal cancer. *Philippe Rouanet (France).*
15.00-15.15	Colorectal cancer etiology: the bug hypothesis. *Pascal Gervaz (Switzerland).*
15.15-15.30	Dysplasia and cancer in UC. Is there a paradigm shift towards segmental resection? *Joseph Nunoo-Mensah (UK).*
15.30-15.45	Intraoperative radiotherapy for rectal cancer. Luai Ashari (Saudi Arabia).
15.45-16.15	**Coffee break.**

Part IV. 16.15 – 18.00. Moderator: Donatas Venskutonis (Lithuania)

16.15-16.30	Diverticulitis – current management – when laparoscopic lavage indicated? *Phil Caushaj (USA).*
16.30-16.45	Dehisced colorectal anastomosis: a novel approach. *Nasser Al Sanea (Saudi Arabia).*
16.45-17.00	Complications in ostomies: how to avoid it and how to solve it. *Ricardo Escalante (Venesuela).*
17.00-17.15	Two and three dimensional ultrasonography in benign and malignant anorectal neoplasias. *Francisco Abarca (Equador).*
17.15-17.30	Perineal rectal prolapse repair. *Isaias Ricardo Fretes Zarate (Paraguay).*
17.30-17.45	Stapled Hemorrhoidopexy: avoiding and treating the complications. *Yogesh Palshetkar (India).*
17.45-18.00	Closing remarks.

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1

Advantages of robotic approach in the surgical treatment of lower rectal cancer

Nam Kyu Kim, M.D., Ph.D., FACS, FRCS

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Objectives and Discussion. The recent progression of minimally invasive techniques for colorectal cancer, the trend of the current standard treatment of rectal cancer is going toward minimally invasive surgery (MIS). Evolution of the surgical techniques and the introduction of more advanced instruments for colorectal surgery have resulted in several advantages such as better cosmesis, quicker recovery, less postoperative pain, and a decreased hospital stay. Recently, 2 international randomized clinical trials (COLOR II trial and A La Cart trial) were conducted to determine whether laparoscopic resection is non-inferior to open rectal cancer resection for adequacy of cancer clearance. Although the overall quality of surgery was high in these groups, they could not provide sufficient evidence for the routine use of laparoscopic surgery in rectal cancer. However, COLOR II trial demonstrated that laparoscopic surgery was non-inferior to open surgery in terms of the rates of 3-year locoregional recurrence, disease-free and overall survival. Robotic systems combined with this trend have been developed as one of the treatment options for rectal cancer patients; however, to date, TME is still regarded as a technically demanding and oncologically critical procedure, especially in patients with challenging circumstances such as a narrow pelvis, lower rectal tumour, and anatomical complexity. On the basis of this trend, many colorectal surgeons have evaluated the true benefits of robotic technology, which overcomes the technical limitations of laparoscopic TME in lower rectal cancer. Robotic surgery for lower rectal cancer theoretically has the advantages of stable vision, 3-dimensional view, superior dexterity, and precision of the movements of the robotic arms. However, the true benefits of robotic surgery are controversial, and whether robotic TME can be justified as a standard treatment for rectal cancer patients needs to be clarified. Recently, our institution reported that the rate of conversion was significantly lower for robotic TME than laparoscopic TME (0.0% vs. 7.1%, $P = 0.003$). Similarly, the short-term outcomes from a few meta-analysis revealed that robotic TME was associated with a significantly lower conversion rate and equivalent oncologic adequacy compared to laparoscopic TME. However, questions still remain whether robotic TME have any influence on the oncologic outcomes and postoperative morbidity in lower rectal cancer patients, as compared to laparoscopic TME. While the currently available data are limited, recent studies have reported at least equivalency between laparoscopic and robotic TME in terms of critical perioperative outcomes, such as postoperative complications, CRM involvement rate, and lymph node yield. Consistent with these previous studies, our institution showed equivalent outcomes between laparoscopic and robotic TME, including regarding the quality of oncologic resection, such as CRM involvement, lymph node harvest (Laparoscopic TME vs. Robotic TME: 16.2 ± 8.1 vs. 15.0 ± 8.1, $P = 0.069$), and rate of postoperative complications. Furthermore, as is evident from our published results, robotic TME was significantly associated with a much lower incidence of late voiding dysfunction than laparoscopic TME (0.7% vs. 4.3%, $P = 0.012$) and with earlier recovery in voiding and sexual function compared to laparoscopic TME. On the basis of previous studies, robotic platform may be attributed to superior movement of the wristed instruments, and to the precise pelvic dissection with better dexterity under stable magnified view, especially in lower rectal cancer. Theoretically, the use of a robotic system can decrease the risk of collateral injury to the pelvic autonomic nerves. However, currently there are only limited studies evaluating the impact of robotic technology on urogenital complications after TME. Thus, whether these theoretical advantages of robotic TME translate into significant favourable urogenital function still remains to be determined. ROLARR trial (NCT01196000) are currently ongoing to clarify this issue, and to provide conclusive evidence regarding the role of robotic resection for rectal cancer. The long awaited interim reports of ROLARR trial was presented last year at the meeting of ASCRS and EAES.

Conclusion. Despite the study design as a superiority trial (for conversion) and despite the claims by robotic enthusiasts, there were no statistically significant advantages to robotic TME relative to the number of lymph nodes, quality of TME, involvement of CRM, APR plane, or 30-days morbidity. Furthermore, this study failed to demonstrate any statistically significant advantage in terms of conversion rate in either overall or subgroup analysis. ROLARR trial is still underway to assess the long-term results and potential benefits of robotic rectal surgery over laparoscopic rectal surgery.

2

Local rectal cancer treatment: options and outcomes

Narimantas Evaldas Samalavicius,

Center of Oncosurgery, Vilnius, Lithuania

Objective and discussion. Standard radical rectal cancer treatment is associated with a number of issues, including early concerns (surgical complications, mortality) and functional outcomes (defecation, urinary and sexual disorders). In terms of diminishing complications and mortality, as well as avoiding functional impairment, local rectal cancer treatment seems to be an attractive option. As a rule, local treatment can be implemented in "early" rectal cancer, though it has been recently repeatedly used for preoperatively down-staged rectal cancer as well.

A number of local rectal cancer treatment options were used over time, starting from transanal techniques (local excision, transanal endoscopic microsurgery, transanal minimal invasive surgery, endoscopic submucosal dissection), posterior proctotomy, electrocoagulation, and X-ray endocavitary irradiation. Local excision has been substituted by those other three more modern modalities, posterior proctotomy has been abandoned over time, electrocoagulation was associated with a number of adverse issues, and X-ray endocavitary radiation has been proven to be very suitable, though only by several enthusiasts.

Conclusion. A major concern of local excision is a higher number of local recurrences, and in those who develop recurrence, despite the fact that initially they are treated for early stages, poor overall survival despite further aggressive strategies.

Therefore, local rectal cancer treatment as initial therapy with intent for cure should be reserved only for well selected low-risk early rectal cancer population.

3

MIS for CRC evidence and issues

Sung-Bum Kang

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Objectives and Discussion. Although the laparoscopic penetrance rates for colorectal cancer in Korea increased to 65.7% in 2013, there are many controversial issues; oncological safety, learning curve, and training including simulation-based learning, indication of laparoscopy, technical difficulty, fast-track, port sites, superiority of laparoscopic surgery, and functional outcomes compared with robot.

Laparoscopic surgery is one of the largest technical revolutions in medicine. Research for the clinical evidence of laparoscopic surgery is a special rare development in the history of cancer surgery because the great majority of new surgical methods that introduced 100 years of modern history were not assessed in randomized controlled trials. Currently, the laparoscopic surgery for colorectal cancer is in the level of evidence I with the short-term benefit compared with open surgery. This lecture provides an evidence-based summary of laparoscopic surgery for colorectal cancer, compared with other surgical options including open and robotic surgery.

4

Endoscopic submucosal dissection (ESD) in colorectal tumour

Eui Gon Youk

Daehang Hospital, Korea

Objectives and Discussion. In Asian and some other Western countries, ESD is reported to be an efficient treatment with a high rate of en bloc resection for large colorectal tumours and it is considered less invasive than laparoscopic colectomy (LAC). The rate of en bloc resection is reported to be more than 90%. ESD is the treatment for tumours that are impossible to be resected with EMR, diagnosing intramucosal cancer and shallowly invasive submucosal cancer with the help of chromoendoscopy, narrow-band imaging (NBI). To diversify the available endoscopic treatment strategies for superficial colorectal neoplasms, endoscopists performing ESD need to recognize its indications, the technical issues involved in its application, and the associated complications. The most appropriate treatment should be selected according to this information and in accordance with the accurate endoscopic diagnosis. However, ESD can be a time-consuming procedure and carries a higher risk of perforation than EMR. Compared to EMR, the rate of perforation is reported to be higher for ESD (1.5–10.4%).

Conclusion. However, most of our patients with this complication did not need emergency surgery. Hence, ESD is considered a safe and appropriate procedure when performed by experienced endoscopists who have acquired the necessary technical skills through adequate training. Recently, ESD

(endoscopic submucosal dissection) is becoming more commonly used with the increasing refinement of the technique and improvement in the associated tools and peripheral devices, both of which have enhanced the safety and clinical simplicity of ESD. Thus, this method is expected to be standardized in a near future.

5

Transanal endoscopic microsurgery: single institution experience

Audrius Dulskas, Alfredas Kilius, Kestutis Petrulis, Narimantas E. Samalavicius

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Introduction. Low anterior resection with total mesorectal excision is a gold standard for rectal cancer treatment. However, it is associated with a high-rate morbidity and mortality. High rates of pelvic organ dysfunction represent another drawback. Transanal endoscopic microsurgery (TEM) is a safe and feasible minimally invasive surgical approach to treat benign adenoma and early-stage carcinoma of the rectum.

Aim. To describe our experience in treating benign and early malignant rectal tumours by transanal endoscopic microsurgery (TEM) focusing on patients' demographic data, morbidity, and local recurrence rates.

Material and Methods. The study included 130 patients who underwent TEM for rectal adenomas and early rectal cancer from December 2009 to December 2015 at the Department of Surgical Oncology, National Cancer Institute. Patients underwent digital and endoscopic evaluation with multiple biopsies. For preoperative staging pelvic magnetic nuclear resonance or endorectal ultrasound was performed. We recorded the demographics, operative details, final pathology, post-operative length of hospital stay, post-operative complications, and recurrences rates.

Results. The mean age of our patients was 67.7±10.9 years. The average tumour size was 2.8±1.5 cm (range from 0.5 to 8.3 cm). 102 (78.5%) benign and 28 (21.5%) malignant tumours were removed. Of latter 23 (17.7%) were pT1 cancers and five (3.8%) pT2. 2 patients with pT2 cancer underwent adjuvant chemoradiotherapy, one – abdominoperineal resection, one refused for further treatment and one was lost to follow up. There were no intraoperative complications. In seven cases (5.4%), postoperative complications were observed – urinary retention (4 cases, 3.1%), postoperative haemorrhage (2 cases, 1.5%), and wound dehiscence in one case (0.8%). All complications were treated conservatively. Mean postoperative hospital stay was 2.3 days. There were two cases (1.5%) of recurrence (one in adenoma group and one in pT2 cancer) during the follow-up period.

Conclusions. TEM in our experience demonstrated low complication and recurrence rates. This technique should be recommended for rectal adenoma and early rectal cancer with good prognostic factors local excision. In unexpected pT1 with bad prognostic factors or pT2 cases, completion or salvage surgery should be performed.

6

Recent update in surgical treatment of rectal cancer

Ji Yeon Kim

Chungnam National University, Korea

Objectives and Discussion. Rectal cancer is an important cause of cancer-related deaths worldwide, and key anatomic differences between the rectum and the colon have significant implications for management of rectal cancer. Surgery is the cornerstone of curative therapy for patients with rectal cancer and the operative procedure selected depends upon stage, size, and location. Recently many advances have been made in the diagnosis and management of rectal cancer. These include clinical staging with imaging studies such as pelvic magnetic resonance imaging (MRI), operative approaches such as transanal endoscopic microsurgery (TEM) and laparoscopic and robotic assisted proctectomy, as well as refined neoadjuvant and adjuvant therapies.

The lecture will focus on the recent update on surgical treatment of rectal cancer with special regard to transanal minimal invasive surgery (TAMIS) and transanal total mesorectal excision (TaTME).

7

Modulation of colonic motility by angiotensins in experimental colitis in rats

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Objectives and Discussion. Renin-angiotensin system is involved in the pathophysiology of colonic inflammation. There are many active angiotensin (Ang) fragments but their effects on colonic motility are not clear. This study investigated the pathophysiological role of Ang fragments in the regulation of colonic motility in experimental colitis. Experimental colitis was induced by an intake of 5% dextran sulfate sodium (DSS) dissolved in tap water for 7 days. After sacrifice, plasma hormone concentrations, mRNAs for RAS were measured. Functional analysis of colonic motility in response to Ang III, Ang IV, and Ang-(1-7) was performed using Taenia coli. Ang III and Ang IV (1, 3, and 10 uM) stimulated the frequency of colonic motility in a dose-dependent manner and the order of potency was Ang II >>> Ang IV > Ang III. Ang-(1-7) (3, 10, and 30 uM) inhibited frequency of colonic motility but increased its amplitude. The effect of Ang III, Ang IV, or Ang-(1-7) on motility was inhibited by the pretreatment of AT2R, AT4R, or Mas R, respectively. DSS-treated colon showed an increased necrosis with massive infiltration of inflammatory cells. The colonic mRNA level for Ang converting enzyme (ACE)-2 was markedly decreased but that for ACE was not in experimental colitis. However, the colonic mRNA levels for Ang type 1 receptor (AT1R), AT2R, and Mas R were markedly increased. The stimulated responses of frequency of basal motility to Ang III and Ang IV were enhanced but the inhibitory response of Ang-(1-7) -inhibited colonic motility was not affected in DSS-treated rat colon. In conclusion, modulation of colonic motility by Ang III, Ang IV, and Ang-(1-7) in experimental colitis may be due to changes in mRNA levels of colonic Ang receptors.

Conclusion. These data suggest that Ang fragments are partly involved in the regulation and colonic motility and may play a role in pathophysiology of experimental colitis. (supported by the National Research Foundation of Korea grant funded by the Korea government, No 2008-0062279).

Key words: RAS; colitis; angiotensin; angiotensin receptor; motility

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Single-port access laparoscopic reversal of hartmann operation

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Objectives and Discussion. Hartmann's procedure has been the standard operation in the treatment of complicated sigmoid diverticulitis and of ileus due to obstruction of the left colon. These days most surgeons perform a single-stage procedure with a primary anastomosis, sometimes combined with a protective double-loop stoma. In patients with a complicated diverticulitis (sigmoid perforation and feculent peritonitis, Hinchey IV classification) Hartmann's procedure still has its place in modern surgical therapy.

Reversal of Hartmann's procedure (RHP) is a major undertaking that entails a long, midline, abdominal incision. Wound-related and pain-related complications are common and morbidity of 15–34% and peri-operative mortality up to 10% was reported.

For almost a century, Hartmann's procedure was the main surgical procedure for treatment of acute conditions affecting the left-side colon. The restoration of gastrointestinal continuity after the initial surgery, i.e., RHP, has always represented a major challenge for surgeons and patients. The procedure is often difficult and involves painstaking dissection of peritoneal adhesions in the abdomen and pelvis via a major laparotomy wound. As a result, pain-related and wound-related morbidities are common. For this reason, some 40–50% of patients are considered unfit for RHP and are left with a permanent colostomy.

Laparoscopic colorectal surgery has now been convincingly shown to have short-term benefits over open colorectal surgery, including reduced blood loss, less pain, faster recovery of bowel function, and reduced length of stay, with no adverse effects on mortality, morbidity, or oncological outcomes.

Siddiqui et al. published a first systematic review for open versus laparoscopic reversal of Hartmann's procedure. They concluded that laparoscopic procedure is safe, has fewer complications and shorter hospital stays.

Slawik and Dixon suggested that the laparoscopic approach had the added benefit of an easier splenic flexure mobilization. Leroy et al. concluded that laparoscopic RHP was associated with a low conversion and complication rate when standardized operative protocol was followed and expert mentorship was available. Van de Wall et al. reported that laparoscopic RHP had favourable outcomes. Faure et al. demonstrated, in

a comparative study, a shorter operating time, faster resolution of paralytic ileus, and lower morbidity rate in laparoscopic RHP, when compared with open surgery. While there was no difference in the operation time and intra-operative blood loss, significantly fewer patients in the laparoscopic group suffered from paralytic ileus, compared with the open group; this explains the significantly shorter hospital stay in the laparoscopic group. Additionally, the advantage of reduced wound-related complications, i.e., incisional hernia, following laparoscopic surgery was again demonstrated in this study. It is interesting to note that significantly fewer patients in the laparoscopic group required a covering ileostomy. The reason for this is unclear; however, laparoscopy may, by virtue of improved visualization through magnified view, help facilitate splenic flexure mobilization and allow a tension-free, well perfused anastomosis to be constructed more easily. All wound infections occurred at the previous stoma site. From the results of a published paper concerning wound infection after colorectal surgery, the wound infection rate for closure of stoma is 34.6%. In published studies of more than 15 cases of laparoscopic Hartmann's reversal, the conversion rate was between 10 and 20%.

Although natural orifice transluminal endoscopic surgery remains a more controversial approach because of the involved technical challenges and to-date unclear safety and efficacy profile, the more rapid uptake of single-port access (SPA) in surgical practice is demonstrated by the increasing number of publications reporting the results from SPA surgery.

By using a single-port access without any extra scar than the stoma incision, the access trauma and the rate of possible complications are lower compared to "conventional" laparoscopic surgery with 3-4 trocars. Primary dissection and preparation of the stoma before laparoscopy is very helpful, reduces the need of conversion and saves operating time. In difficult situations, there will be almost no time loss to use extra trocars or convert to open surgery.

Single-port access laparoscopic reversal of Hartmann operation through the stoma site appears to be a feasible, safe, and cosmetically preferred technique, and should be considered by experienced laparoscopic surgeons.

9

Complications after colonoscopy

Hyung Jin Kim

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Objectives and Discussion. Complications after colonoscopy are relatively rare. However, as the number of screening colonoscopy and therapeutic colonoscopy are increasing, the complications after colonoscopy we encountered are increasing, too. Therefore, we have to pay attention to reduce the complications and its managements. Most severe complications are colon perforation and bleeding.

1. Colon perforation
   - Incidence: less than 0.1% after screening colonoscopy, 0.2% after polypectomy, and higher than 10% after submucosal dissection (ESD)
   - Risk factors: old age, female, diabetes, inflammatory bowel disease, large tumour
   - Mechanism: direct pressure, mechanical trauma by loop formation
   - Most common location: sigmoid colon
   - Prevention
     i. Selection of patients
     ii. Do not proceed when patients complain of severe abdominal pain
     iii. Minimal air inflation
     iv. X-ray after colonoscopy
   - Treatment
     i. Conservative treatment: when the peritoneal irritation was minimal
     ii. Endoscopic closure using hemoclip
     iii. Laparoscopic primary closure
     iv. Resection with or without fecal diversion
2. Bleeding
   - Incidence: 0.1–7%
   - Risk factors: polypectomy, antiplatelet agent, rectal polyp
   - Treatment: endoscopic clipping or band ligation, epinephrine injection, embolization, surgical resection
3. Postpolypectomy syndrome
   - Incidence: less than 0.2%
   - Mechanism: maybe due to colon wall burn or localized peritonitis
4. Other complications
   - Abdominal discomfort, diarrhoea, nausea
   - Complications associated with sedation
   - Complications associated with bowel preparation
   - Spleen injury
   - Subcutaneous emphysema
   - Hernia
   - Diverticulitis

Although complications after colonoscopy are rare, it is inevitable. We should prepare for the potential complications after colonoscopy and prompt management of complications is the most important.

10

Endoscopic restitution of the integrity of gastrointestinal tract with OTSC system (OVESCO)

Gintautas Radžiūnas[1], Inga Kildušienė[2], Narimantas Evaldas Samalavičius[2]

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Objectives and Discussion. Perforations of gastrointestinal tract, anastomotic leakages and fistulas remain the major problems in gastrointestinal surgery and endoscopy. OTSC (Over-The-Scope Clip) System of OVESCO represents a new class of endoscopic clips providing significantly more strength and better tissue capture compared to the conventional clips delivered through the working channel of the flexible endoscope. The OTSC System could be used in flexible endoscopy for 1) acute bleeding, 2) full thickness wall closure, 3) compression as well as approximation of tissue, and 4) management of complications after endoscopic or surgical interventions.

The aim of the paper is to share the experience with OTSC System in restitution of integrity of the digestive tract.

During the years 2013–2016, 20 patients were treated applying OTSC clip, overall 24 procedures were carried out, and 27 clips were applied in Vilnius University Hospital Santariskiu Klinikos and National Cancer Institute. The demographic characteristics are as following: 8 female and 12 male patients, aged 35–85 years. Time to the OTSC procedure from the moment the fistula was revealed was: acute (0–3 days) – 5 patients, sub-acute (3 days – 1 month) – 11 patients, and chronic (more than 1 month) – 4 patients. Indications for the procedure were: cancer, post-surgery leak, fistula – 13 cases, iatrogenic lesion of the colon due to endoscopic removal of the colonic polyp or diagnostic colonoscopy – 4 cases, perforations due to necrotic pancreatitis after multiple operations – stomach and duodenum – 2 cases, leak of the esophageal suture after perforation with the foreign body – 1 case. At initial procedure, complete closure achieved in 15/20 of the cases (75%). The completeness of the closure has been checked radiologically or injecting methylene blue solution immediately after the clip application. In three cases two clips were applied at the initial procedure, and in four cases repeated clip application was performed later when clinically and radiologically signs of fistula recurred. At the remote period in 13 out of 20 patients (65%) fistula remained closed.

Conclusions. 1. OTSC® System could replace or supplement in certain cases traditional surgical approach in the treatment of fistula, perforation, or anastomotic leak. 2. At the remote period, in 13 out of 20 patients (65%) fistula remained closed. 3. OTSC® should be available in the endoscopy units where interventional procedures are carried out.

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History of lateral LN dissection with nerve preservation for rectal cancer in Japan

Takeo Mori

Honorable Director of Tokyo Metropolitan Cancer and Infectious disease center Komagome Hospital Tokyo, Japan

Japanese Society of Cancer of Colon and Rectum was founded in 1972 and published the first rule book for the cancer of the colon and rectum in 1975. On the way of discussion to define the regional lymph node of rectum, lymph node situated at the side wall along both internal and external iliac arteries (Lateral Lymphnodes). At that time, the anatomy of pelvic autonomic nerves was not clear, and neither was the rectal mesenteric fascia. We achieved complete LLD (Lateral Lymph Dissection) with sacrifice of pelvic autonomic nerves. As a result of such wide resection, the local recurrence rate improved dramatically. However, many urinary and sexual disturbances occurred in the post operative period. We started pelvic autonomic nerve preserving LLD from 1988. The frequency of functional disturbance was improved and the survival was same as previous period. The randomized trial in our hospital and preliminary result of Japanese trial will be presented this time.

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Japanese D3 dissection for colon cancer

Keiichi Takahashi

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Objective. Surgical quality is very important to improve surgical outcome. Recently, several papers mentioned the importance of complete mesocolic excision (CME) with central vascular ligation (high ligation) to keep the quality of operation for colonic cancer. The idea of this CME with central vascular ligation is similar to Japanese standard colectomy with D3 dissection. In this paper, I introduce Japanese D3 dissection for colorectal cancer clinico-pathologically.

Materials and methods. According to Japanese classification of colorectal carcinoma (by Japanese Society for Cancer of the Colon and Rectum), the grade of lymph node dissection was classified in 3 grades; D1: complete dissection of pericolic lymph nodes, D2: complete dissection of pericolic and intermediate lymph nodes, D3: complete dissection of all regional lymph nodes. Our bowel cutting line is about 10 cm apart from the tumour margin of both oral side and anal side. According to the Japanese guidelines of 2014, D3 dissection is usually necessary for colon cancer with clinically lymph node metastasis or T3-T4 colon cancer.

I experienced curatively resected 590 colonic cancer patients between 2000 to 2004. I analysed the counts of harvested lymph nodes and the distribution of metastatic pericolic lymph nodes and the length of bowel resection.

Results. D3 dissection data in my experience is as follows. The average counts of harvested lymph nodes for N(+) cases (N=255) were D1:10.1, D2: 13.1 and D3:22.0. The average counts of harvested lymph nodes for N(-) cases (N=335) were D1:7.1, D2: 12.3 and D3:21.9. The counts of harvested lymph nodes increased as to increasing D number. The length of anal bowel resection margin was shorter than oral side. The length of bowel resection margin was same according to the degree of dissection and metastatic lymph nodes. The 5-year survival rate comparing to D1+D2 and D3 dissection was 77.0% and 94.7% for stage 2 (logrank test: p=0.0113282), and 80.8% and 78.0% for stage 3 (p=0.8172916). Three cases had metastatic pericolic lymph nodes that were more than 5 cm distant from the tumour margin. All of them had metastatic main lymph nodes (related to SMA (at the origin of each colic artery) or IMA (proximal to the origin of the left colic artery)). Total counts of metastatic lymph nodes were more than 7.

Conclusions. Japanese bowel resection with D3 dissection for colon cancer is anatomical resection according to the vascular variation and regional lymph node. Surgical outcome is acceptable even though bowel resection is short.

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Causes of low anterior resection syndrome: a prospective observational study

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Objectives. An anal sphincter-preserving operation (SPO) has become the procedure of choice for rectal cancers located near the anal sphincter. However, the postoperative defecatory malfunction inherent to this procedure often diminishes the quality of life, especially in patients who have undergone a very low anterior or intersphincteric resection. One of the major factors associated with postoperative defecatory malfunction is damage to the anal sphincter, which is closely associated with postoperative incontinence. Patients who undergo SPO often experience other defecatory dysfunctions, such as urgency, incomplete evacuation, and multiple evacuations, collectively known as the "low anterior resection (LAR) syndrome". The causes of such defecatory malfunctions following SPO have not been well delineated.

Methods. We evaluated postoperative impairment of anal sphincter function by eight channel three-dimensional vector manometry in 123 patients who had undergone SPO for rectal cancer. In addition, we measured postoperative contraction waves in the remnant colon by intraluminal pressure monitoring in 137 cases 1 year postoperatively.

Results. We found that: (1) the functional anal length receiving pressure from 360° of the anal canal correlates with incontinence score; (2) spastic hypermotility in the neorectum correlates with defecatory malfunction, such as urgency, multiple evacuations, and incontinence score; and (3) manifestation of spastic hypermotility in the neorectum correlates with high ligation of the inferior mesenteric artery (IMA). However, high ligation of the IMA did not correlate with defecatory malfunction.

Conclusion. In addition to damage to the anal sphincter, abnormal hypermotility in the neorectum may contribute to the development of LAR syndrome. Although high ligation of the IMA does not correlate directly with postoperative defecatory malfunction, it may cause hypermotility of the neorectum.

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Dysplasia & cancer in UC. Is there a paradigm shift towards segmental resection?

Joseph W Nunoo-Mensah

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Objectives and Discussion. Patients with extensive, long-standing colonic inflammatory bowel disease have a greater risk of developing colorectal cancer (CRC) than the general population. The prevalence of CRC in patients with ulcerative colitis (UC) is approximately 3.7% on average, being 2% at

10 years and 19% at 30 years from diagnosis. Furthermore, CRC is the third leading cause of death in patients with UC. Based on these data, periodic follow-up colonoscopies in all patients with long-standing UC and colonic Crohn's disease (CD) are recommended. However, detection of colitis-associated dysplasia and cancer during follow-up endoscopy is complex as these lesions are multifocal and often sit on normal-appearing mucosa.

What's the role of dysplasia in pathogenesis of colorectal cancer in UC? 90% of colorectal cancers in UC have dysplasia adjacent to the tumour. 75% of colorectal cancers have dysplasia elsewhere in colon UC (27–100% in CD). In colectomies following a diagnosis of dysplasia 20–50% of cases will have a carcinoma. Surveillance programs document low grade dysplasia before development of carcinoma. Therefore, there is strong evidence to suggest that there is an association between dysplasia and carcinoma.

What to do when dysplasia is found in patients with colitis has remained one of the most controversial questions in their management. Should one opt for continued colonoscopic surveillance or proceed to prophylactic total colectomy or proctocolectomy with intent to avoid the development of a colorectal cancer?

The debate continues into 2016 and with recent advances in diagnostic and therapeutic endoscopic techniques is there a paradigm shift towards segmental resection in dysplasia or cancer? This lecture aims to address this question.

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Diverticulitis: changing management for a complex disease

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Objectives and Discussion. The greatest advantages of laparoscopy when compared to open surgery include faster recovery times, shorter hospital stays, decreased postoperative pain, earlier return to work and resumption of normal daily activity as well as cosmetic benefits. Laparoscopy today is considered the gold standard of care in the treatment of cholecystitis and appendicitis worldwide. Laparoscopy has even been adopted in colorectal surgery with good results. The technological improvements in this surgical field along with the development of modern techniques and the acquisition of specific laparoscopic skills have allowed for its utilization in operations with fully intracorporeal anastomoses. Further progress in laparoscopy has included single-incision laparoscopic surgery and natural orifice trans-luminal endoscopic surgery.

Nevertheless, laparoscopy for emergency surgery is still considered challenging and is usually not recommended due to the lack of adequate experience in this area. The technical difficulties of operating in the presence of diffuse peritonitis or large purulent collections and diffuse adhesions are also given as reasons. However, the potential advantages of laparoscopy, both in terms of diagnosis and therapy, are clear. Major advantages may be observed in cases with diffuse peritonitis secondary to perforated peptic ulcers, for example, where laparoscopy allows the confirmation of the diagnosis, the identification of the position of the ulcer and a laparoscopic repair with effective peritoneal washout. Laparoscopy has also revolutionized the approach to complicated diverticulitis even when intestinal perforation is present. Many other emergency conditions can be effectively managed laparoscopically, including trauma in select hemodynamically-stable patients.

We have, therefore, reviewed the most recent scientific literature on advances in laparoscopy for acute care surgery and trauma in order to demonstrate the current indications and outcomes associated with a laparoscopic approach to the treatment of the most common emergency surgical conditions.

Up to 10% of acute colonic diverticulitis may necessitate a surgical intervention. Although associated with high morbidity and mortality rates, Hartmann's procedure (HP) has been considered for many years to be the gold standard for the treatment of generalised peritonitis. To reduce the burden of surgery in these situations and as driven by the accumulated experience in colorectal and minimally-invasive surgery, laparoscopy has been increasingly adopted in the management of abdominal emergencies. Multiple case series and retrospective comparative studies confirmed that with experienced hands, the laparoscopic approach provided better outcomes than the open surgery. This technique applies to all interventions related to complicated diverticular disease, such as HP, sigmoid resection with primary anastomosis (RPA), and reversal of HP. The laparoscopic approach also provided new therapeutic possibilities with the emergence of the laparoscopic lavage drainage (LLD), particularly interesting in the context of purulent peritonitis of diverticular origin. At this stage, however, most of our knowledge in these fields relies on studies of low-level evidence. More than ever, well-built large randomized controlled trials are necessary to answer present interrogations, such as the exact place of LLD or the most appropriate sigmoid resection procedure (laparoscopic HP or

RPA), as well as to confirm the advantages of laparoscopy in chronic complications of diverticulitis or HP reversal.

The clinical spectrum of diverticular disease varies from asymptomatic diverticulosis to symptomatic disease with potentially fatal complications, such as perforation or bleeding. While the presence of diverticula is common, symptomatic diverticulitis is relatively uncommon, occurring in an estimated 10–30% of patients. There is continued debate as to whether patients should undergo elective resection for diverticular disease and regarding the role of minimally invasive surgery. Since the first publication on laparoscopic colorectal procedures, the interest in minimally invasive surgery has kept growing. Laparoscopic sigmoid resection with restoration of continuity is currently the prevailing modality for treating acute and recurrent sigmoid diverticulitis. However, it still remains unclear whether laparoscopy should also be recommended for complicated sigmoid diverticulitis. The potential benefits of reduced pain and analgesic requirements, smaller scars, and shorter hospital stay but longer operative times are appealing to both patients and surgeons.

There are many concerns regarding the time and the type of surgery. Although the role of minimally invasive surgery in the treatment of colonic diseases is progressively increased, current randomized controlled trials should demonstrate whether laparoscopic lavage, Hartmann's procedure or resection and anastomosis achieve the best results for patients. This review aimed to analyse the results of laparoscopic colonic resection for patients with uncomplicated and complicated forms of sigmoid diverticular disease and to determine what stages profit from a laparoscopic procedure and whether the approach can be performed with a low complication rate even for patients with complicated forms of the disease.

To this day, the treatment of generalised peritonitis secondary to diverticular perforation is still controversial. Recently, in patients with acute sigmoid diverticulitis, laparoscopic lavage and drainage has gained a wide interest as an alternative to resection. Based on this backdrop, we decided to perform a systematic review of the literature to evaluate the safety, feasibility, and efficacy of peritoneal lavage in perforated diverticular disease. A bibliographic search was performed in PubMed for case series and comparative studies published between January 1992 and February 2014 describing laparoscopic peritoneal lavage in patients with perforated diverticulitis. A total of 19 articles consisting of 10 cohort studies, 8 case series, and 1 controlled clinical trial met the inclusion criteria and were reviewed. In total these studies analysed data from 871 patients. The mean follow-up time ranged from 1.5 to 96 months when reported. In 11 studies, the success rate of laparoscopic peritoneal lavage, defined as patients alive without surgical treatment for a recurrent episode of diverticulitis, was 24.3%. In patients with Hinchey stage III diverticulitis, the incidence of laparotomy conversion was 1%, whereas in patients with stage IV it was 45%. The 30-day postoperative mortality rate was 2.9%. The 30-day postoperative reintervention rate was 4.9%, whereas 2% of patients required a percutaneous drainage. Readmission rate after the first hospitalization for recurrent diverticulitis was 6%. Most patients who were readmitted (69%) required redo surgery. A 2-stage laparoscopic intervention was performed in 18.3% of patients. Laparoscopic peritoneal lavage should be considered an effective and safe option for the treatment of patients with sigmoid diverticulitis with Hinchey stage III peritonitis; it can also be considered as a "bridge" surgical step combined with a delayed and elective laparoscopic sigmoidectomy in order to avoid a Hartmann procedure. This minimally invasive staged approach should be considered for patients without systemic toxicity and in centres experienced in minimally invasive surgery techniques. Further evidence is needed, and the ongoing RCTs will better define the role of the laparoscopic peritoneal lavage/drainage in the treatment of patients with complicated diverticulitis.

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Dehisced colorectal anastomosis: a novel approach

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Background. A dehisced colorectal anastomosis complicated by a sinus, especially after preoperative radiation for colorectal cancer, may not heal. We describe our experience in the management of such a condition using the endoscopic surgical stapler.

Methods. Patients who underwent a low anterior resection for rectal cancer after preoperative chemoradiation and who developed a dehisced anastomosis complicated by a chronic posterior sinus underwent the procedure. After exclusion of cancer recurrence, the common wall between the sinus and the rectal lumen was stapled using the endoscopic surgical stapler.

Results. Four patients received the day-surgery treatment. Healing of the sinus was confirmed in all patients using a contrast enema. Median time to healing was 10 weeks. All patients had a diverting ileostomy, which was eventually closed. No complications were noted.

Conclusion. Stapling the common wall between the sinus and the rectal lumen after a dehisced anastomosis is a viable option in the treatment of chronic posterior sinuses when coupled with fecal diversion.

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Two and three dimensional ultrasonography in benign and malignant anorectal neoplasias

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Objective and Discussion. Ultrasound (US) scanning plays an important role in locoregional tumour staging and has been shown to be efficient in detecting parietal invasion and metastasized perirectal lymph nodes. It's important in evaluating the extent of tumour invasion in the rectal wall, sphincter muscles, and perirectal lymph nodes; and detecting early local recurrence in the rectal wall or perirectal lymph nodes. The three-dimensional scanning mode enables the examiner to stage lesions in multiple planes, measure tumour length, and determine the distance between the distal tumour border and the sphincter muscles for comparison. This is an important aspect to consider when planning surgical resection with or without sphincter saving.

Conclusion. The three-dimensional scanning mode is safer, as it makes it possible to review the images posteriorly, in real time, as required by some lesions.

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Avoiding and treating the complications of Stapled Hemorrhoidopexy

Yogesh Palshetkar

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Introduction. Stapled hemorrhoidopexy is a significantly less painful operation and offers significant advantages in terms of hospital stay and symptom control in the long term, making for an earlier return to work. Stapled hemorrhoidopexy (SH) presents a number of complications that differ from those of traditional haemorrhoidectomy (Milligan-Morgan, diathermy haemorrhoidectomy). The follow-up shows better symptom control than other surgical techniques.

Methods. We reviewed 124 patients operated for Stapled Hemorrhoidopexy in our centre in the period of 2010 to 2014. The patient records were assessed for intraoperative, post-operative up to 1 month, after 6 months and 1 year by records and a questionnaire.

Results. Bleeding in the early postoperative period occurred in 4% of all patients and in 2 cases (1.6%) reoperation was necessary. Urge to defecate, although present in 14% of patients, disappears in a few weeks. Severe pain, when present, may depend on a technical failure or the learning curve, or a patient's perception. We came across rectal strictures in 4 patients (3.2%) and were treated by incising at four directions. Complete or incomplete recurrence occurred in 3 cases (2.4%). In one case, we underestimated the extent of the mucosal prolapse and the patient was reoperated on by stapled transanal rectal resection after one year.

Conclusions. Stapled hemorrhoidopexy is a significantly less painful operation and offers significant advantages in terms of hospital stay and symptom control in the long term, making for a significantly earlier return to work. The complication rates are similar to those of other techniques and are easily resolved. Patient's satisfaction is the best response to all criticism. The unusual complications described or reported in the literature (rectal perforation, pelvic sepsis, rectovaginal fistulas) might suggest that the operation should be performed by experienced colorectal surgeons who are familiar with the technique and aware of the possible complications.

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