Current Practices in Rectal Cancer Surgery: A Survey of Thai Colorectal Surgeons

Varut Lohsiriwat MD*,
Darin Lohsiriwat MD*, Parinya Thavichaigarn MD**

** Department of Surgery, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand*
*** Department of Surgery, Pramongkutklao Hospital, Bangkok, Thailand*

Objective: *Surgical techniques and management of rectal cancer have been rapidly evolving. The aim of the present study was to assess current practices in rectal cancer surgery among Thai colorectal surgeons.*
Material and Method: *Descriptive study was set between July and September 2008, a questionnaire was distributed to members (board-certified colorectal surgeons) of the Society of Colon and Rectal Surgeons Thailand regarding their current practices in rectal cancer including pre-operative management, surgical techniques, and postoperative surveillance protocol. Their perception of laparoscopic surgery was also emphasized.*
Results: *Forty questionnaires were returned (80% response rate). Of the respondents, 45% worked in a university hospital. Surgeons were in broad agreement (>75 percent agree) on the routine preoperative use of carcinoembryonic antigen, CT or MRI of the pelvis for cancer staging, mechanical bowel preparation, pelvic drainage after colorectal anastomosis, and postoperative surveillance in patients with curative resection. Opinion was divided (<75 percent agreement) on the use of neoadjuvant therapy for locally advanced rectal cancer, lateral pelvic node dissection, rectal irrigation prior to bowel resection, air-testing after bowel anastomosis, the need of protective stoma, and duration of prophylactic antibiotics. Thirty-three surgeons (82.5%) believed that laparoscopic surgery achieved the same oncological outcomes of open surgery; however, only 40% of surgeons have experience in laparoscopic resection for rectal cancer.*
Conclusion: *There is a considerable diversity of clinical practice for rectal cancer surgery, particularly in preoperative chemoradiation in locally advanced rectal cancer and to perform protective stoma after colorectal anastomosis. Meanwhile, postoperative surveillance protocol is quite uniform, and laparoscopic rectal surgery has gained attention among Thai colorectal surgeons.*

Keywords: *Rectal cancer, Survey, Surgery, Surveillance, Stoma, Drainage, Laparoscopic*

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During the last few decades, several surgical techniques and management of rectal cancer have been rapidly evolving. For instance, complete removal of the mesorectum, known as total mesorectal excision which was introduced by Heald in 1982, has now become a gold standard treatment of middle and lower rectal cancer as it reduces a local recurrence of the tumor[1]. Imaging devices, such as helical computed tomographic (CT) scan or magnetic resonance image (MRI), play an important role in preoperative tumor staging and postoperative surveillance. Meanwhile, preoperative chemoradiation has been selectively used in the cases of locally advanced rectal cancer in order to minimize positive circumferential resection margin and to reduce local recurrence rate[2].

Recently, laparoscopic surgery in various gastrointestinal diseases including rectal cancer is increasingly popular because it could provide less pain, shorter hospital stay, faster postoperative recovery, and better cosmetic appearance compared to open surgery[3]. Laparoscopic surgery for rectal cancer is yet a complicated operation requiring highly skilled

Correspondence to: Lohsiriwat V, Department of Surgery, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok 10700, Thailand. Phone: 0-2419-8077, Fax: 0-2411-5009, E-mail: bolloon@hotmail.com

surgeons and sophisticated instruments[4], and its oncological outcomes remain questionable[5].

In order to get some insight of current practice into rectal cancer surgery in Thailand, the authors have conducted a questionnaire survey of Thai board-certified colorectal surgeons to assess their current practice in rectal cancer surgery and to evaluate their perception of laparoscopic surgery for rectal cancer.

Material and Method

Between July and September 2008, a questionnaire was distributed to members (board-certified colorectal surgeons) of the Society of Colon and Rectal Surgeons Thailand. The aim of the questionnaire was to assess their current practices in rectal cancer including pre-operative management, surgical techniques, methods of postoperative surveillance, and their perception of laparoscopic operation for rectal cancer. Responses were analyzed and reported in median (range), or number (percentage).

Results

Forty questionnaires were returned (80% response rate). The respondents had a median age of 43 years (range 31-60) and 95% were male. They had practiced as a surgeon for 15 years (range 2-35). Rectal cancer accounts for 30% of their daily operations. Of all surgeons, 45% work in a university hospital.

Preoperative management

Routine use of preoperative carcino embryonic antigen (CEA) and CT/MRI of the pelvis were indicated in 97.5% and 90% of the surgeons, respectively (Table 1). Only three surgeons (7.5%) routinely perform endorectal ultrasonography (ERUS) for middle and low rectal cancer. With regard to liver imaging, 67.5% of the surgeons preferred CT scan whereas the others used ultrasonography. Fifteen surgeons (37.5%) would apply preoperative chemoradiation to patients with T3 and/or N+ rectal cancer. All, except one, currently request mechanical bowel preparation before elective surgery.

Surgical technique and decision-making

The clinical scenario described a reasonably fit patient with rectal cancer and a solitary resectable liver metastasis. Twenty-six surgeons (65%) chose to perform liver resection in the same operation for rectal cancer. Preferences of certain intraoperative techniques are shown in Table 2. According to their reply, stapled colorectal anastomosis was performed in about 60% of cases.

Thirteen surgeons (33%) preferred a combination of general anesthesia and epidural block. Fifty-three percent prescribed intravenous antibiotic prophylaxis longer than 24 hours. Regarding laparoscopic surgery in rectal cancer, a majority (82.5%) believed that oncological outcomes of laparoscopic rectal cancer surgery are equivalent to those of open surgery. However, only 40% of the surgeons have ever performed laparoscopic resection for rectal cancer.

Postoperative surveillance

Most surgeons (85%) set up a surveillance program for curative CRC resection every 3 months in the first 2 years. All integrated periodic measurement of serum CEA into their surveillance program, but only 72.5% and 32.5% suggested routine liver imaging and pelvic scan, respectively. None used ERUS in their surveillance program. Thirty-four surgeons (85%) performed post-CRC resection surveillance by colonoscopy at 1 year. Follow-up preferences are summarized in Table 3.

Discussion

The survey of clinical practices in rectal cancer surgery was carried out in colorectal surgeons, who have a great influence on the management of such a sophisticated disease as well as surgical resident training in a university hospital. Their practice can be affected by different facilities in their hospital, patient's condition, regional healthcare policy, insurance system, evidence-based knowledge, and even their own personal experience or preference.

Accurate preoperative staging is an important aspect of rectal cancer management, which helps surgeons determine an appropriate management for each individual. Over 90% of the respondents would request pelvic imaging to assess the local extension of the tumor and preoperative CEA. An elevated preoperative CEA is a poor prognostic factor and correlates with reduced overall survival after cancer resection[6]. In addition, a failure of the CEA to return to normal levels after surgery is indicative of inadequate resection or occult systemic disease. National Comprehensive Cancer Network (NCCN) in 2008 has suggested to perform preoperative CEA measurement, CT of chest and abdomen, ERUS or MRI of the pelvis in patients with rectal cancer appropriate for surgery[7]. Although ERUS is the most sensitive

Table 1. Preoperative assessment and management for rectal cancer (n = 40)

Preoperative management	Number of responses (%)
Routine use of preoperative CEA	39 (97.5)
Routine use of CT/MRI of the pelvis	36 (90.0)
Routine use of ERUS (if possible)	3 (7.5)
Preferred method of screening liver metastasis	
CT scan	27 (67.5)
Ultrasonography	13 (32.5)
Pre-operative chemoradiation for T3 and/or N+ tumor	15 (37.5)
Mechanical bowel preparation for elective surgery	39 (97.5)

Table 2. Use of intraoperative techniques in rectal cancer surgery (n = 40)

Intraoperative techniques used	Number of responses (%)
Liver metastasectomy (if need) in the same setting	26 (65.0)
Lateral pelvic node dissection if suspected node + ve	8 (20.0)
Routine posterior vaginalectomy in abdominoperineal resection	7 (17.5)
Irrigation of the rectum before dividing it	25 (62.5)
Air-testing after bowel anastomosis	23 (57.5)
Type of colorectal anastomosis	
End-to-end	36 (90.0)
Side-to-end	4 (10.0)
With colonic pouch formation	2 (5.0)
Protective stoma after low anterior resection	
No	22 (55.0)
Yes, with loop ileostomy	18 (45.0)
Yes, with loop colostomy	0 (0)
Pelvic drainage after bowel anastomosis	31 (77.5)
Rectal tube insertion after bowel anastomosis	0 (0)
Use of antibiotic prophylaxis $\geq$ 24 hours	21 (52.5)
Use of combined general anesthesia + epidural block	13 (32.5)

Table 3. Postoperative surveillance in rectal cancer (n = 40)

Postoperative surveillance	Number of responses (%)
Follow-up frequency in first 2 years (months)	
2	2 (5.0)
3	34 (85.0)
4	3 (7.5)
6	1 (2.5)
Routine use of postoperative CEA	40 (100)
Routine use of postoperative liver scan	29 (72.5)
Routine use of postoperative pelvic scan	13 (32.5)
Routine use of postoperative ERUS	0 (0)
Next colonoscopy in asymptomatic patient (assume no pre-operative colonic polyps)	
At 1 year	34 (85.0)
At 2 year	4 (10.0)
At 3 year	2 (5.0)

method for the evaluation of wall infiltration[8], it has limitation on determination of lymph node metastasis and is not suitable in case of obstructing or nearly obstructing rectal cancer. Due to the limited availability of ERUS device in Thailand, surgeons in this survey seldom use ERUS in preoperative staging of rectal cancer.

With regard to liver imaging, CT scan clearly has a better sensitivity and specificity to detect liver metastasis than ultrasonography, but it is more expensive. Most Thai colorectal surgeons preferred CT scan for screening hepatic metastasis. A nationwide survey of diagnostic work-up of colorectal liver metastases in the Netherlands revealed that ultrasonography of the liver has been the main investigation tool[9]. However, surgeons who also perform liver resection tend to use CT scan as a screening tool[10]. In the present survey, about two-thirds of surgeons would perform solitary liver metastatectomy in the same operation of rectal surgery.

There is evidence that preoperative chemo-radiation for locally advanced rectal cancer improves tumor downstaging, pathological complete response, and local control of the tumor; however, it does not significantly improve disease free survival and overall survival, or increase the likelihood of sphincter-saving operation[11]. These reasons could in part explain why Thai colorectal surgeons had a different opinion about using preoperative chemoradiation for locally advanced rectal cancer.

Although there is no convincing evidence that mechanical bowel preparation (MBP) is associated with reduced rates of anastomotic leakage after elective colorectal surgery and, conversely, MBP may be associated with an increased rate of anastomotic leakage and other septic complications[12], many surgeons still used MBP in their clinical practice. According to the present survey, all except one respondent routinely used MBP for rectal surgery. This finding is in keeping with the survey of members of the American Society of Colon and Rectal Surgeons in 2003 and members of the Spanish Coloproctologic Associations in 2008; revealing that MBP is still invariably used in rectal surgery (over 90% of cases)[13,14].

The utility of prophylactic antibiotics in rectal surgery is controversial, and numerous different regimens are used. According to the Centers for Disease Control and Prevention (CDC) guideline in 1999[15], prophylactic antibiotics should have a bacteriocidal activity against the most probable intraoperative contaminants, and should be given intravenously 30-60 minutes prior to the incision and discontinued within 24 hours after surgery. However, based on the present study, about half of surgeons preferred to continue intravenous antibiotics longer than 48 hours. This may be because the surgeons were more cautious about the higher rate of surgical site infection in rectal surgery than colon surgery[16]. There is no evidence that prolonged administration of antibiotics can minimize the incidence of surgical site infection or anastomotic leakage[17].

Based on this survey, one-third of the surgeons preferred combined general and epidural anesthesia in rectal operations. There is evidence that using combined general and regional anesthesia in major abdominal surgery reduces pulmonary complications, postoperative ileus, and length of hospital stay[18]. However, epidural analgesia may have some serious complications, such as epidural hematoma, spinal-epidural infections, and local anesthetic cardiac toxicity[19]. Surgeons and anesthesiologists therefore should determine risk versus benefit of each anesthetic technique based on the individual patient and surgical procedure.

The issue of using protective stoma and pelvic drainage for colorectal anastomosis is still debatable. According to this survey, protective stoma and pelvic drainage after bowel anastomosis were routinely used in 45% and 78% of respondents' clinical practice. A recent report of 170 Thai patients with rectal cancer in 2008 showed that a sphincter-saving operation without a protective stoma and pelvic drain can be performed safely in the vast majority of the patients, and a tumor within 5 cm of the anal verge was an independent factor for anastomotic leakage[20]. Other risk factors for leakage included male gender and preoperative chemoradiation[21]. If protective stoma were necessary, all respondents would select temporary loop ileostomy. This finding is quite similar to the survey of colorectal surgeons associated with colorectal residency programs throughout North America, in which 93% of the respondents preferred loop ileostomy than loop colostomy[22].

Regarding rectal tube placement, none of our respondents placed an indwelling rectal tube after bowel anastomosis. In contrast to the authors' finding, 16-36% of consultant surgeons of the Association of Coloproctology of Great Britain & Ireland (ACPGBI) used a rectal tube to minimize an anastomotic disruption and to reduce the need for a

diverting stoma[23]. However, the efficacy of rectal tubes in reducing local anastomotic complications is still required further evaluation.

Although laparoscopic resection of colon cancer has the similar long-term oncological outcomes of open colectomy, these outcomes in laparoscopic rectal cancer surgery remain unknown and more randomized trials need to be conducted to assess them[24]. In the present survey, over 80% of surgeons believed that oncological outcomes of laparoscopic rectal cancer surgery are equivalent to those of open surgery while about half of them have performed laparoscopic resection for rectal cancer. A survey of consultant members of ACPGBI in 2008 showed that 34-50% of surgeons in UK have performed laparoscopic rectal resection, and the main reason for not performing laparoscopic operation was lack of training and funding as well as no convincing evidence that laparoscopic surgery was better than conventional open surgery[25].

Unlike the operative procedure, postoperative surveillance program was quite uniformed among Thai colorectal surgeons. Most surveillance methods consisted of measurement of serum CEA with or without routine liver imaging every 3 months in the first 2 years, and colonoscopy at 1 year postoperatively. This program could be classified as an intensive follow-up in several studies, and there has been evidence that intensive follow-up after curative resection of colorectal cancer improved overall survival and re-resection rate for recurrent disease[26]. However, the surveillance system is affected by patient/disease condition or by socioeconomic factors, which could be different among the health-care systems. A national survey among Dutch surgeons in 2007, over 90% of the respondents accepted follow-up protocol consisted of CEA measurements every 3 months in the first year and six-monthly thereafter, and ultrasound examination of the liver every 6 months[10]. In addition, the most important factors determining the follow-up protocol were age and physical condition prohibiting metastasectomy or re-operation for recurrent disease[10].

Some limitations of this survey should be addressed. Firstly, it is somehow difficult to assess all decision-making solely based on a questionnaire in which clinical information given is limited. However, this survey revealed important data of clinical practice in rectal cancer among Thai colorectal surgeons. Secondly, it is notable that the data is still an opinion from colorectal specialties mainly working in the secondary or tertiary hospitals where several multidisciplinary teams and advanced facilities are available.

Conclusion

There is a considerable diversity of clinical practice for rectal cancer surgery, particularly in preoperative chemoradiation in locally advanced rectal cancer and to perform protective stoma for colorectal anastomosis. Meanwhile, postoperative surveillance is quite uniform, and laparoscopic rectal surgery has gained attention among Thai colorectal surgeons.

References

1. Cecil TD, Sexton R, Moran BJ, Heald RJ. Total mesorectal excision results in low local recurrence rates in lymph node-positive rectal cancer. Dis Colon Rectum 2004; 47: 1145-9.
2. Onaitis MW, Noone RB, Hartwig M, Hurwitz H, Morse M, Jowell P, et al. Neoadjuvant chemoradiation for rectal cancer: analysis of clinical outcomes from a 13-year institutional experience. Ann Surg 2001; 233: 778-85.
3. Strohlein MA, Grutzner KU, Jauch KW, Heiss MM. Comparison of laparoscopic vs. open access surgery in patients with rectal cancer: a prospective analysis. Dis Colon Rectum 2008; 51: 385-91.
4. Bianchi PP, Rosati R, Bona S, Rottoli M, Elmore U, Ceriani C, et al. Laparoscopic surgery in rectal cancer: a prospective analysis of patient survival and outcomes. Dis Colon Rectum 2007; 50: 2047-53.
5. Miyajima N, Fukunaga M, Hasegawa H, Tanaka J, Okuda J, Watanabe M. Results of a multicenter study of 1,057 cases of rectal cancer treated by laparoscopic surgery. Surg Endosc 2009; 23: 113-8.
6. Goldstein MJ, Mitchell EP. Carcinoembryonic antigen in the staging and follow-up of patients with colorectal cancer. Cancer Invest 2005; 23: 338-51.
7. National Comprehensive Cancer Network (NCCN). Practical Guidelines in Oncology (Rectal Cancer)-v.3. Washington, PA: NCCN; 2008.
8. Panzironi G, De Vargas MM, Manganaro L, Ballesio L, Ricci F, Casale A, et al. Preoperative locoregional staging of rectal carcinoma: comparison of MR, TRUS and Multislice CT. Personal experience. Radiol Med 2004; 107: 344-55.
9. Bipat S, van Leeuwen MS, Ijzermans JN, Bossuyt PM, Greve JW, Stoker J. Imaging and treatment of

patients with colorectal liver metastases in the Netherlands: a survey. Neth J Med 2006; 64: 147-51.
10. Grossmann I, de Bock GH, van de Velde CJ, Kievit J, Wiggers T. Results of a national survey among Dutch surgeons treating patients with colorectal carcinoma. Current opinion about follow-up, treatment of metastasis, and reasons to revise follow-up practice. Colorectal Dis 2007; 9: 787-92.
11. Glynne-Jones R, Harrison M. Locally advanced rectal cancer: what is the evidence for induction chemoradiation? Oncologist 2007; 12: 1309-18.
12. Guenaga KF, Matos D, Castro AA, Atallah AN, Wille-Jorgensen P. Mechanical bowel preparation for elective colorectal surgery. Cochrane Database Syst Rev 2005; (1): CD001544.
13. Zmora O, Wexner SD, Hajjar L, Park T, Efron JE, Nogueras JJ, et al. Trends in preparation for colorectal surgery: survey of the members of the American Society of Colon and Rectal Surgeons. Am Surg 2003; 69: 150-4.
14. Roig JV, Garcia-Fadrique A, Garcia-Armengol J, Bruna M, Redondo C, Garcia-Coret MJ, et al. Mechanical bowel preparation and antibiotic prophylaxis in colorectal surgery: use by and opinions of Spanish surgeons. Colorectal Dis 2009; 11: 44-8.
15. Mangram AJ, Horan TC, Pearson ML, Silver LC, Jarvis WR. Guideline for prevention of surgical site infection, 1999. Hospital Infection Control Practices Advisory Committee. Infect Control Hosp Epidemiol 1999; 20: 250-78.
16. Lohsiriwat V, Lohsiriwat D. Antibiotic prophylaxis and incisional surgical site infection following colorectal cancer surgery: an analysis of 330 cases. J Med Assoc Thai 2009; 92: 12-6.
17. Song F, Glenny AM. Antimicrobial prophylaxis in colorectal surgery: a systematic review of randomized controlled trials. Br J Surg 1998; 85: 1232-41.
18. Bonnet F, Marret E. Influence of anaesthetic and analgesic techniques on outcome after surgery. Br J Anaesth 2005; 95: 52-8.
19. Pogatzki-Zahn EM, Wenk M, Wassmann H, Heindel WL, Van Aken H. Complications of regional anesthesia: diagnostic and management. Anasthesiol Intensivmed Notfallmed Schmerzther 2007; 42: 42-52.
20. Lohsiriwat V, Lohsiriwat D, Boonnuch W, Chinswangwatanakul V, Akaraviputh T, Riansuwan W, et al. Outcomes of sphincter-saving operation for rectal cancer without protective stoma and pelvic drain, and risk factors for anastomotic leakage. Dig Surg 2008; 25: 191-7.
21. Lee WS, Yun SH, Roh YN, Yun HR, Lee WY, Cho YB, et al. Risk factors and clinical outcome for anastomotic leakage after total mesorectal excision for rectal cancer. World J Surg 2008; 32: 1124-9.
22. Hool GR, Church JM, Fazio VW. Decision-making in rectal cancer surgery: survey of North American colorectal residency programs. Dis Colon Rectum 1998; 41: 147-52.
23. Gurjar SV, Forshaw MJ, Ahktar N, Stewart M, Parker MC. Indwelling trans-anastomotic rectal tubes in colorectal surgery: a survey of usage in UK and Ireland. Colorectal Dis 2007; 9: 47-51.
24. Kuhry E, Schwenk WF, Gaupset R, Romild U, Bonjer HJ. Long-term results of laparoscopic colorectal cancer resection. Cochrane Database Syst Rev 2008; (2): CD003432.
25. Schwab KE, Dowson HM, Van Dellen J, Marks CG, Rockall TA. The uptake of laparoscopic colorectal surgery in Great Britain and Ireland: a questionnaire survey of consultant members of the ACPGBI. Colorectal Dis 2009; 11: 318-22.
26. Tjandra JJ, Chan MK. Follow-up after curative resection of colorectal cancer: a meta-analysis. Dis Colon Rectum 2007; 50: 1783-99.

เวชปฏิบัติร่วมสมัยในการผ่าตัดมะเร็งเรคตัม: สำรวจในศัลยแพทย์ลำไส้ใหญ่และเรคตัมของไทย

วรุตม์ โล่ห์สิริวัฒน์, ดรินทร์ โล่ห์สิริวัฒน์, ปริญญา ทวีชัยการ

วัตถุประสงค์: *เพื่อสำรวจเวชปฏิบัติของศัลยแพทย์ลำไส้ใหญ่และเรคตัมในประเทศไทย เพราะเทคนิคการผ่าตัดและรักษามะเร็งเรคตัมพัฒนาอย่างรวดเร็ว*

วัสดุและวิธีการ: *ใช้แบบสอบถามส่งไปในช่วงเดือนกรกฎาคม ถึง กันยายน พ.ศ. 2551 ไปยังสมาชิกของสมาคมศัลยแพทย์ลำไส้ใหญ่และเรคตัมประเทศไทย (ศัลยแพทย์ลำไส้ใหญ่และเรคตัมผู้ได้รับวุฒิบัตร) สอบถามเกี่ยวกับเวชปฏิบัติที่แต่ละท่านทำอยู่ในปัจจุบัน ในการผ่าตัดรักษามะเร็งเรคตัม รวมตั้งแต่การเตรียมผู้ป่วยก่อนผ่าตัดเทคนิคที่เลือกใช้ในการผ่าตัด จนถึงแบบแผนการดูแลผู้ป่วยหลังผ่าตัด และได้สอบถามเกี่ยวกับการผ่าตัดทางกล้องด้วย*

ผลการศึกษา: *ได้รับแบบสอบถามกลับมา 40 ฉบับ (คิดเป็นการตอบกลับร้อยละ 80) ร้อยละ 45 ของผู้ตอบกลับเป็นศัลยแพทย์ในโรงพยาบาลมหาวิทยาลัย ผู้ตอบกลับทำเวชปฏิบัติในแนวเดียวกัน (เหมือนกันมากกว่าร้อยละ 75) ในแง่ของการเตรียมผู้ป่วยก่อนผ่าตัดโดยตรวจหาระดับ carcinoembryonic antigen, ตรวจช่องเชิงกรานด้วยเอกซเรย์คอมพิวเตอร์หรือคลื่นแม่เหล็กไฟฟ้าเพื่อประเมินระยะของมะเร็ง, การเตรียมลำไส้ใหญ่ก่อนการผ่าตัด, การใส่ท่อระบายในช่องเชิงกรานหลังจากตัดต่อลำไส้ใหญ่ และมีการใช้การตรวจติดตามการกลับเป็นซ้ำของโรคหลังการผ่าตัดแต่ผู้ตอบกลับทำเวชปฏิบัติแตกต่างกัน (เหมือนกันน้อยกว่าร้อยละ 75) ในแง่ของการใช้ยาเคมีบำบัดร่วมกับการฉายแสงก่อนการผ่าตัดสำหรับมะเร็งเรคตัมแบบลุกลามเฉพาะที่, การผ่าตัดเอาต่อมน้ำเหลืองที่ผนังช่องเชิงกรานออก, การสวนล้างลำไส้ใน ห้องผ่าตัดก่อนการตัดต่อลำไส้, การเป่าลมตรวจรอยต่อของลำไส้ใหญ่, การเลือกทำ protective stoma, และระยะเวลาการให้ยาปฏิชีวนะ ศัลยแพทย์ 33 คน (ร้อยละ 82.5) เชื่อว่าการผ่าตัดทางกล้องให้ผลการรักษามะเร็งได้ดีพอ ๆ กับการผ่าตัดเปิดหน้าท้อง อย่างไรก็ตามมีศัลยแพทย์เพียงร้อยละ 40 เคยผ่าตัดมะเร็งเรคตัมโดยวิธีผ่าตัดทางกล้อง*

สรุป: *เวชปฏิบัติสำหรับการผ่าตัดมะเร็งเรคตัมมีความหลากหลาย โดยเฉพาะในแง่การใช้เคมีบำบัดและรังสีรักษาก่อนการผ่าตัด ในผู้ป่วยมะเร็งเรคตัมแบบลุกลามเฉพาะที่ และในแง่ที่จะทำ protective stoma หรือไม่ หลังจากตัดต่อลำไส้ใหญ่, แต่มีการใช้การตรวจติดตามการกลับเป็นซ้ำของโรคหลังการผ่าตัดกันอย่างแพร่หลาย ส่วนวิธีผ่าตัดทางกล้องก็ได้รับความสนใจพอควรในหมู่ศัลยแพทย์ลำไส้ใหญ่และเรคตัมของไทย*