ISSN 1948-9366 (online)

World Journal of *Gastrointestinal Surgery*

World J Gastrointest Surg 2024 July 27; 16(7): 1956-2364

Published by Baishideng Publishing Group Inc

World Journal of Gastrointestinal Surgery

Contents

Monthly Volume 16 Number 7 July 27, 2024

EDITORIAL

1956 Unveiling the potential of electrocautery-enhanced lumen-apposing metal stents in endoscopic ultrasound-guided biliary drainage

Chisthi MM

1960 Minimally invasive pelvic exenteration for primary or recurrent locally advanced rectal cancer: A glimpse into the future

Kehagias D, Lampropoulos C, Kehagias I

1965 Endoscopic submucosal dissection for early gastric cancer: A major challenge for the west

Schlottmann F

1969 Impact of immunotherapy on liver metastasis

Fu Z, Wang MW, Liu YH, Jiao Y

1973 Occurrence and prevention of incisional hernia following laparoscopic colorectal surgery

Wu XW, Yang DQ, Wang MW, Jiao Y

1981 Role of endoscopic-ultrasound-guided biliary drainage with electrocautery-enhanced lumen-apposing metal stent for palliation of malignant biliary obstruction

Deliwala SS, Qayed E

REVIEW

1986 Pancreatic pseudocyst: The past, the present, and the future

Koo JG, Liau MYQ, Kryvoruchko IA, Habeeb TA, Chia C, Shelat VG

ORIGINAL ARTICLE

Case Control Study

2003 Diagnostic significance of serum levels of serum amyloid A, procalcitonin, and high-mobility group box 1 in identifying necrotising enterocolitis in newborns

Guo LM, Jiang ZH, Liu HZ, Zhang L

Retrospective Cohort Study

2012 Clinical efficacy and safety of double-channel anastomosis and tubular gastroesophageal anastomosis in gastrectomy

Liu BY, Wu S, Xu Y

2023 Application of radioactive iodine-125 microparticles in hepatocellular carcinoma with portal vein embolus

Meng P, Ma JP, Huang XF, Zhang KL

World Journal of Gastrointestinal Surgery

Monthly Volume 16 Number 7 July 27, 2024

Contents

Retrospective Study

2031 Reproducibility study of intravoxel incoherent motion and apparent diffusion coefficient parameters in normal pancreas

Liu X, Wang YF, Qi XH, Zhang ZL, Pan JY, Fan XL, Du Y, Zhai YM, Wang Q

2040 Weight regain after intragastric balloon for pre-surgical weight loss

Abbitt D, Choy K, Kovar A, Jones TS, Wikiel KJ, Jones EL

2047 Retrospective analysis based on a clinical grading system for patients with hepatic hemangioma: A single center experience

Zhou CM, Cao J, Chen SK, Tuxun T, Apaer S, Wu J, Zhao JM, Wen H

2054 Spleen volume is associated with overt hepatic encephalopathy after transjugular intrahepatic portosystemic shunt in patients with portal hypertension

Zhao CJ, Ren C, Yuan Z, Bai GH, Li JY, Gao L, Li JH, Duan ZQ, Feng DP, Zhang H

2065 Evaluation of the clinical effects of atropine in combination with remifentanil in children undergoing surgery for acute appendicitis

Li YJ, Chen YY, Lin XL, Zhang WZ

2073 The combined detection of carcinoembryonic antigen, carcinogenic antigen 125, and carcinogenic antigen 19-9 in colorectal cancer patients

Gong LZ, Wang QW, Zhu JW

2080 Clinical efficacy of laparoscopic cholecystectomy plus cholangioscopy for the treatment of cholecystolithiasis combined with choledocholithiasis

Liu CH, Chen ZW, Yu Z, Liu HY, Pan JS, Qiu SS

2088 Association between operative position and postoperative nausea and vomiting in patients undergoing laparoscopic sleeve gastrectomy

Li ZP, Song YC, Li YL, Guo D, Chen D, Li Y

2096 Preoperative albumin-bilirubin score predicts short-term outcomes and long-term prognosis in colorectal cancer patients undergoing radical surgery

Diao YH, Shu XP, Tan C, Wang LJ, Cheng Y

2106 Association of preoperative antiviral treatment with incidences of post-hepatectomy liver failure in hepatitis B virus-related hepatocellular carcinoma

Wang X, Lin ZY, Zhou Y, Zhong Q, Li ZR, Lin XX, Hu MG, He KL

2119 Effect of rapid rehabilitation nursing on improving clinical outcomes in postoperative patients with colorectal cancer

Song JY, Cao J, Mao J, Wang JL

2127 Interaction between the albumin-bilirubin score and nutritional risk index in the prediction of post-hepatectomy liver failure

Qin FF, Deng FL, Huang CT, Lin SL, Huang H, Nong JJ, Wei MJ

World Journal of Gastrointestinal Surgery

Monthly Volume 16 Number 7 July 27, 2024

Contents

2135 Effectiveness of magnetic resonance imaging and spiral computed tomography in the staging and treatment prognosis of colorectal cancer

Bai LN, Zhang LX

2145 Correlation between abdominal computed tomography signs and postoperative prognosis for patients with colorectal cancer

Yang SM, Liu JM, Wen RP, Qian YD, He JB, Sun JS

2157 Study on the occurrence and influencing factors of gastrointestinal symptoms in hemodialysis patients with uremia

Yuan D, Wang XQ, Shao F, Zhou JJ, Li ZX

2167 "Hepatic hilum area priority, liver posterior first": An optimized strategy in laparoscopic resection for type III-IV hilar cholangiocarcinoma

Hu XS, Wang Y, Pan HT, Zhu C, Chen SL, Zhou S, Liu HC, Pang Q, Jin H

2175 Impact of nutritional support on immunity, nutrition, inflammation, and outcomes in elderly gastric cancer patients after surgery

Chen XW, Guo XC, Cheng F

2183 Therapeutic effects of Buzhong Yiqi decoction in patients with spleen and stomach qi deficiency after routine surgery and chemotherapy for colorectal cancer

Hu Q, Chen XP, Tang ZJ, Zhu XY, Liu C

2194 Influencing factors and risk prediction model for emergence agitation after general anesthesia for primary liver cancer

Song SS, Lin L, Li L, Han XD

2202 Potential applications of single-incision laparoscopic totally preperitoneal hernioplasty

Wang XJ, Fei T, Xiang XH, Wang Q, Zhou EC

2211 Clinical significance of preoperative nutritional status in elderly gastric cancer patients undergoing radical gastrectomy: A single-center retrospective study

Zhao XN, Lu J, He HY, Ge SJ

2221 Establishment and validation of a predictive model for peripherally inserted central catheter-related thrombosis in patients with liver cancer

Chen XF, Wu HJ, Li T, Liu JB, Zhou WJ, Guo Q

Observational Study

2232 Effect of information-motivation-behavioral skills model based perioperative nursing on pain in patients with gallstones

Ma L, Yu Y, Zhao BJ, Yu YN, Li Y

2242 Postoperative body weight change and its influencing factors in patients with gastric cancer

Li Y, Huang LH, Zhu HD, He P, Li BB, Wen LJ

2255 Cost burden following esophagectomy: A single centre observational study

Buchholz V, Lee DK, Liu DS, Aly A, Barnett SA, Hazard R, Le P, Kioussis B, Muralidharan V, Weinberg L

Randomized Controlled Trial

2270 Effectiveness of colonoscopy, immune fecal occult blood testing, and risk-graded screening strategies in colorectal cancer screening

Xu M, Yang JY, Meng T

Clinical and Translational Research

2281 Construction of prognostic markers for gastric cancer and comprehensive analysis of pyroptosis-related long non-coding RNAs

Wang Y, Li D, Xun J, Wu Y, Wang HL

Basic Study

2296 Yangyin Huowei mixture alleviates chronic atrophic gastritis by inhibiting the IL-10/JAK1/STAT3 pathway

Xie SS, Zhi Y, Shao CM, Zeng BF

2308 Impacts of different pancreatic resection ranges on endocrine function in *Suncus murinus*

Li RJ, Yang T, Zeng YH, Natsuyama Y, Ren K, Li J, Nagakawa Y, Yi SQ

SYSTEMATIC REVIEWS

2319 Impact of frailty on postoperative outcomes after hepatectomy: A systematic review and meta-analysis

Lv YJ, Xu GX, Lan JR

CASE REPORT

2329 Multidisciplinary management of ulcerative colitis complicated by immune checkpoint inhibitor-associated colitis with life-threatening gastrointestinal hemorrhage: A case report

Hong N, Wang B, Zhou HC, Wu ZX, Fang HY, Song GQ, Yu Y

2337 Sequential bowel necrosis and large gastric ulcer in a patient with a ruptured femoral artery: A case report

Wang P, Wang TG, Yu AY

2343 Colon signet-ring cell carcinoma with chylous ascites caused by immunosuppressants following liver transplantation: A case report

Li Y, Tai Y, Wu H

2351 Misdiagnosis of hemangioma of left triangular ligament of the liver as gastric submucosal stromal tumor: Two case reports

Wang JJ, Zhang FM, Chen W, Zhu HT, Gui NL, Li AQ, Chen HT

LETTER TO THE EDITOR

2358 Revolutionizing palliative care: Electrocautery-enhanced lumen-apposing metal stents in endoscopic-ultrasound-guided biliary drainage for malignant obstructions

Onteddu NKR, Mareddy NSR, Vulasala SSR, Onteddu J, Virarkar M

2362 Preservation of superior rectal artery in laparoscopic colectomy: The best choice for slow transit constipation?

Liu YL, Liu WC

World Journal of Gastrointestinal Surgery

Monthly Volume 16 Number 7 July 27, 2024

Contents

ABOUT COVER

Peer Reviewer of *World Journal of Gastrointestinal Surgery*, Hideki Aoki, MD, PhD, Chief Doctor, Surgeon, Department of Surgery, Iwakuni Clinical Center, Iwakuni 740-8510, Japan. aoki.hideki.hy@mail.hosp.go.jp

AIMS AND SCOPE

The primary aim of *World Journal of Gastrointestinal Surgery* (*WJGS*, *World J Gastrointest Surg*) is to provide scholars and readers from various fields of gastrointestinal surgery with a platform to publish high-quality basic and clinical research articles and communicate their research findings online.

WJGS mainly publishes articles reporting research results and findings obtained in the field of gastrointestinal surgery and covering a wide range of topics including biliary tract surgical procedures, biliopancreatic diversion, colectomy, esophagectomy, esophagostomy, pancreas transplantation, and pancreatectomy, *etc.*

INDEXING/ABSTRACTING

The *WJGS* is now abstracted and indexed in Science Citation Index Expanded (SCIE, also known as SciSearch®), Current Contents/Clinical Medicine, Journal Citation Reports/Science Edition, PubMed, PubMed Central, Reference Citation Analysis, China Science and Technology Journal Database, and Superstar Journals Database. The 2024 Edition of Journal Citation Reports® cites the 2023 journal impact factor (JIF) for *WJGS* as 1.8; JIF without journal self cites: 1.7; 5-year JIF: 1.9; JIF Rank: 123/290 in surgery; JIF Quartile: Q2; and 5-year JIF Quartile: Q3.

RESPONSIBLE EDITORS FOR THIS ISSUE

NAME OF JOURNAL
World Journal of Gastrointestinal Surgery

ISSN
ISSN 1948-9366 (online)

LAUNCH DATE
November 30, 2009

FREQUENCY
Monthly

EDITORS-IN-CHIEF
Peter Schemmer

EDITORIAL BOARD MEMBERS
https://www.wjgnet.com/1948-9366/editorialboard.htm

PUBLICATION DATE
July 27, 2024

INSTRUCTIONS TO AUTHORS
https://www.wjgnet.com/bpg/gerinfo/204

GUIDELINES FOR ETHICS DOCUMENTS
https://www.wjgnet.com/bpg/GerInfo/287

GUIDELINES FOR NON-NATIVE SPEAKERS OF ENGLISH
https://www.wjgnet.com/bpg/gerinfo/240

PUBLICATION ETHICS
https://www.wjgnet.com/bpg/GerInfo/288

PUBLICATION MISCONDUCT
https://www.wjgnet.com/bpg/gerinfo/208

ARTICLE PROCESSING CHARGE
https://www.wjgnet.com/bpg/gerinfo/242

STEPS FOR SUBMITTING MANUSCRIPTS
https://www.wjgnet.com/bpg/GerInfo/239

ONLINE SUBMISSION
https://www.f6publishing.com

World Journal of Gastrointestinal Surgery

Submit a Manuscript: https://www.f6publishing.com

World J Gastrointest Surg 2024 July 27; 16(7): 1960-1964

DOI: 10.4240/wjgs.v16.i7.1960

ISSN 1948-9366 (online)

EDITORIAL

Minimally invasive pelvic exenteration for primary or recurrent locally advanced rectal cancer: A glimpse into the future

Dimitrios Kehagias, Charalampos Lampropoulos, Ioannis Kehagias

Specialty type: Surgery

Provenance and peer review: Invited article; Externally peer reviewed.

Peer-review model: Single blind

Peer-review report's classification

Scientific Quality: Grade B
Novelty: Grade B
Creativity or Innovation: Grade C
Scientific Significance: Grade C

P-Reviewer: Ozden S

Received: February 29, 2024
Revised: May 4, 2024
Accepted: May 21, 2024
Published online: July 27, 2024
Processing time: 143 Days and 14.4 Hours

Dimitrios Kehagias, Department of General Surgery, General University Hospital of Patras, Patras 26504, Greece

Charalampos Lampropoulos, Intensive Care Unit, Saint Andrew's General Hospital, Patras 26335, Greece

Ioannis Kehagias, Division of Bariatric and Metabolic Surgery, Department of Surgery, University of Patras, Patras 26504, Greece

Corresponding author: Dimitrios Kehagias, MD, PhD, Consultant Physician-Scientist, Department of General Surgery, General University Hospital of Patras, Rion, Patras 26504, Greece. dimikech@gmail.com

Abstract

Surgeons have grappled with the treatment of recurrent and T4b locally advanced rectal cancer (LARC) for many years. Their main objectives are to increase the overall survival and quality of life of the patients and to mitigate postoperative complications. Currently, pelvic exenteration (PE) with or without neoadjuvant treatment is a curative treatment when negative resection margins are achieved. The traditional open approach has been favored by many surgeons. However, the technological advancements in minimally invasive surgery have radically changed the surgical options. Recent studies have demonstrated promising results in postoperative complications and oncological outcomes after robotic or laparoscopic PE. A recent retrospective study entitled "Feasibility and safety of minimally invasive multivisceral resection for T4b rectal cancer: A 9-year review" was published in the *World Journal of Gastrointestinal Surgery*. As we read this article with great interest, we decided to delve into the latest data regarding the benefits and risks of minimally invasive PE for LARC. Currently, the small number of suitable patients, limited surgeon experience, and steep learning curve are hindering the establishment of minimally invasive PE.

Key Words: Locally advanced rectal cancer; Pelvic exenteration; Multivisceral resection; Minimally invasive surgical procedures; Robotic surgical procedures

Core Tip: Minimally invasive and robotic pelvic exenteration (PE) is currently feasible in appropriately selected locally advanced rectal cancer patients. It is associated with decreased postoperative complications and promising oncological outcomes. The disadvantages of establishing minimally invasive PE as the gold standard treatment for these patients are the relatively small sample sizes in studies, the limited experience of surgeons, and the lack of long-term data on oncological outcomes. Additional well-designed studies with larger sample sizes and long-term data are needed to establish the benefits of the robotic and laparoscopic approaches for PE.

Citation: Kehagias D, Lampropoulos C, Kehagias I. Minimally invasive pelvic exenteration for primary or recurrent locally advanced rectal cancer: A glimpse into the future. *World J Gastrointest Surg* 2024; 16(7): 1960-1964
URL: https://www.wjgnet.com/1948-9366/full/v16/i7/1960.htm
DOI: https://dx.doi.org/10.4240/wjgs.v16.i7.1960

INTRODUCTION

Locally advanced rectal cancer (LARC), primary or recurrent, is a challenging and complicated disease. A significant proportion of patients experience increased morbidity and a poor prognosis[1]. Although neoadjuvant treatment is the primary approach for locally advanced and recurrent rectal cancers, the results in T4b tumors are poor. Therefore, a radical surgical approach is necessary to treat patients with these types of tumors. In the past, local invasion of rectal cancer in organs confined to the pelvis was a contraindication for surgery. This led to a median overall survival (OS) < 1 year, even with the use of palliative therapies[2]. More recently, the benefits of surgical resection have been demonstrated when achieving negative margins and accomplishing an R0 resection. Studies have shown that R0 resection increases survival (5-year OS ranges from 22%-66%) and improves patient quality of life 6 mo postoperatively[3,4].

Pelvic exenteration (PE) or multivisceral resection (first described in 1948 for advanced cervical cancer) appears to be the only available technique to achieve negative margins[5]. A significant number of factors including better patient selection, a multidisciplinary approach, and advances in imaging, surgical technique, and perioperative care have contributed to decreased mortality and morbidity. Unfortunately, surgeons have remained skeptical of the effectiveness of PE due to the extensiveness of the surgery. An international retrospective observational study assessed the outcomes of patients who underwent PE for LARC and found an increase in survival, which provided evidence about the effectiveness of PE to skeptical providers[6,7].

Several different types and modifications of PE have been described (Table 1), allowing surgeons the opportunity to personalize this approach for each patient. Minimally invasive surgery has replaced the traditional open approach for PE, making the surgery easier when operating in the deep narrow pelvis. Studies have shown that laparoscopic or robotic PE is feasible with promising progress for postoperative complications and oncological outcomes. Robotic PE allows three-dimensional visualization with increased depth perception. There are also seven degrees of freedom that amplify surgeon ergonomics in the narrow pelvis. Furthermore, enhanced articulation and dexterity of the EndoWrist instruments enhance the ability to achieve R0 resection[8].

However, small sample sizes and heterogeneity in the published studies are significant drawbacks for establishing minimally invasive PE as treatment for LARC. Additional research needs to be conducted on preoperative decision-making and assessing patient suitability for the surgery[9,10]. The evolution of radiology and the cutting-edge technological advancements in three-dimensional imaging provides clinicians with the best information for planning and executing these demanding procedures[11]. In addition, morbidity, mortality, oncological outcomes, impact on time to adjuvant therapy, and quality of life need to be addressed in future studies.

OUTCOMES OF MINIMALLY INVASIVE TECHNIQUES

Laparoscopic and robotic PE were first performed to treat LARC in 2003 and in 2011, respectively[12,13]. Since then, there has been a limited number of reports and published studies on the topic. The PelvEx Collaborative performed a systematic review and meta-analysis in 2018 to determine and compare the outcomes in open and minimally invasive PE [10]. There were four comparative studies that were included, and none of the studies presented long-term oncological outcomes.

Based on their meta-analysis, minimally invasive PE was associated with less intraoperative blood loss (median: 550 mL *vs* 2300 mL), decreased length of hospital stay (median: 22 d *vs* 28 d), and a slightly decreased risk of 30-d morbidity. The advantage of open PE was the decreased median operation time. No differences were found in achieving R0 resection. Because this meta-analysis was performed 6 years ago and only one study compared robotic PE *vs* open PE, there is a need to reevaluate the effectiveness of robotic and laparoscopic PE and to perform long-term studies to determine oncological outcomes.

Since that meta-analysis was published, more retrospective studies have been published demonstrating the effectiveness of robotic PE. A recent retrospective study included 13 patients who underwent robotic PE and showed a remarkable 100% rate of R0 resection. The median length of hospital stay was 15 d with 0% 30-d mortality. After a median follow-up of 21 (3-53) months, tumor recurrence was observed in 3 patients and death occurred in 4 patients[14]. Another

Table 1 Types of pelvic exenteration and modifications regarding extent of the tumor

Type of pelvic exenteration		Description of the technique
Total pelvic exenteration		Complete *en bloc* resection of the rectum, reproductive internal organs, genitourinary viscera, regional lymph nodes, and peritoneum
Anterior pelvic exenteration		Bladder resection with or without internal reproductive organs
Posterior pelvic exenteration		Resection of the rectum, with or without reproductive internal organs, preservation of bladder
Modifications for the above types		
Sacrectomy	High sacrectomy	Resection of the sacrum above the third sacral body
	High subcortical sacrectomy	Anterior sacral cortex and underlying bone are resected
Pelvic side wall resection	Extended lateral pelvic sidewall excision	Dissection in prone and supine position. Piriformis muscle is dissected, ischial spine and sciatic nerve are excised if needed
	Laterally extended endopelvic resection	Resection of obturator internus, pubococcygeus, iliococcygeus and coccygeus muscles. Sciatic nerve involvement is a contraindication

retrospective study included 8 patients who underwent robotic-assisted PE and revealed a complete oncological resection with clear margins and recurrence-free survival after 12 months of follow-up[15].

In the recent issue of *World Journal of Gastrointestinal Surgery*, Chan *et al*[16] published an interesting paper titled "Feasibility and safety of minimally invasive multivisceral resection for T4b rectal cancer: A 9-year review." This was a single-center retrospective study that included 49 patients with LARC T4b who underwent PE. The primary outcomes of the study were the margin status and the complication rate for the open, laparoscopic, and robotic approaches. The authors reported interesting and valuable conclusions thus setting the stage for further investigation of minimally invasive PE. Patients who underwent minimally invasive PE had significantly decreased blood loss, major morbidity, postoperative collections, postoperative ileus, and surgical site infections, and a shorter hospital stay compared to open PE. R0 resection rate, recurrence, OS, and recurrence-free survival were comparable across all PE groups. The authors clearly demonstrated that when candidates are appropriately selected minimally invasive PE is feasible even in complicated cases, which may convince clinicians to shift from traditional open PE to minimally invasive PE.

The authors also compared the robotic and laparoscopic approaches. While the overall complications were similar, robotic PE was associated with increased operating time. This may indicate the limited experience of the surgeons using the robotic platform or that the more complicated and challenging cases were selected for robotic PE. Furthermore, rates in achieving negative resection margins were similar for both approaches. A noteworthy finding of this study was that robotic PE was significantly associated with an increased 3-year OS and recurrence-free survival. This is particularly interesting because the most complex cases were selected for the robotic approach. It is possible that the meticulous dissection and dexterity offered by the robot contributed to this finding. The robotic approach also had a reduced rate of anastomotic leak (4.8% *vs* 23.0%), although not statistically significant. Limiting anastomotic leak decreases an inflammatory microenvironment, which is a crucial component in tumor development.

Although there were limitations of this study, the results are promising. We predict that more surgeons and departments will begin to adopt the robotic technique while also conducting well-designed long-term studies to add to the sparse data on minimally invasive PE. OS, disease-free survival, and recurrence-free survival after minimally invasive PE require further investigation to draw the correct conclusions.

CHALLENGING AND UNCHARTED FIELDS

As surgeons continue to adopt new innovative techniques to mitigate complications and morbidity after minimally invasive PE, additional issues will arise. For example, the extent of the tumor, especially in the lateral pelvis, is an extremely challenging feature that presents difficulties in achieving R0 resection. New techniques will need to be developed to address this problem. Furthermore, filling the empty pelvis after an extended PE is another topic of intense controversy that requires further study.

The adoption of a multidisciplinary approach with the incorporation of radiology and three-dimensional imaging for operation planning and decision making is of paramount importance to successful management of LARC. Hospital policies and surgical departments should encourage a multidisciplinary approach. Ultimately, surgeons should remember that although PE is currently the only curative treatment for LARC, the final treatment decision should be made after considering four important factors: Resectability; tumor biology; functional capacity; and most importantly the patient's choice.

CONCLUSION

PE is the only curative option for LARC. It increases survival and improves patient quality of life. Currently, minimally

invasive PE shows promising results. However, the small number of suitable patients, limited surgeon experience, and steep learning curve for minimally invasive PE has resulted in a small number of published studies determining the effectiveness of minimally invasive PE compared to open PE. Increasing patient sample sizes and including long-term follow-up will mitigate these issues and provide robust evidence regarding the role of minimally invasive PE for the treatment of LARC.

FOOTNOTES

Author contributions: Kehagias I designed the overall concept and outline of the manuscript; Lampropoulos C contributed to the discussion and design of the manuscript; Kehagias D and Kehagias I contributed to writing and editing the manuscript, creating the tables, and reviewing the literature.

Conflict-of-interest statement: The authors have no conflicts of interest to declare.

Country of origin: Greece

ORCID number: Dimitrios Kehagias 0000-0001-7691-6355; Charalampos Lampropoulos 0000-0003-1512-2273; Ioannis Kehagias 0000-0002-8448-5791.

Corresponding Author's Membership in Professional Societies: European Association for Endoscopic Surgery, No. 11.100.

S-Editor: Chen YL
L-Editor: A
P-Editor: Xu ZH

REFERENCES

1 **Yang TX**, Morris DL, Chua TC. Pelvic exenteration for rectal cancer: a systematic review. *Dis Colon Rectum* 2013; **56**: 519-531 [PMID: 23478621 DOI: 10.1097/DCR.0b013e31827a7868]
2 **Solum AM**, Riffenburgh RH, Johnstone PA. Survival of patients with untreated rectal cancer. *J Surg Oncol* 2004; **87**: 157-161 [PMID: 15334629 DOI: 10.1002/jso.20104]
3 **Westberg K**, Palmer G, Hjern F, Holm T, Martling A. Population-based study of surgical treatment with and without tumour resection in patients with locally recurrent rectal cancer. *Br J Surg* 2019; **106**: 790-798 [PMID: 30776087 DOI: 10.1002/bjs.11098]
4 **Steffens D**, Solomon MJ, Young JM, Koh C, Venchiarutti RL, Lee P, Austin K. Cohort study of long-term survival and quality of life following pelvic exenteration. *BJS Open* 2018; **2**: 328-335 [PMID: 30263984 DOI: 10.1002/bjs5.75]
5 **Brunschwig A**. Complete excision of pelvic viscera for advanced carcinoma; a one-stage abdominoperineal operation with end colostomy and bilateral ureteral implantation into the colon above the colostomy. *Cancer* 1948; **1**: 177-183 [PMID: 18875031 DOI: 10.1002/1097-0142(194807)1:2<177::aid-cncr2820010203>3.0.co;2-a]
6 **PelvEx Collaborative**. Surgical and Survival Outcomes Following Pelvic Exenteration for Locally Advanced Primary Rectal Cancer: Results From an International Collaboration. *Ann Surg* 2019; **269**: 315-321 [PMID: 28938268 DOI: 10.1097/SLA.0000000000002528]
7 **PelvEx Collaborative**. Factors affecting outcomes following pelvic exenteration for locally recurrent rectal cancer. *Br J Surg* 2018; **105**: 650-657 [PMID: 29529336 DOI: 10.1002/bjs.10734]
8 **Chang TP**, Chok AY, Tan D, Rogers A, Rasheed S, Tekkis P, Kontovounisios C. The Emerging Role of Robotics in Pelvic Exenteration Surgery for Locally Advanced Rectal Cancer: A Narrative Review. *J Clin Med* 2021; **10** [PMID: 33916490 DOI: 10.3390/jcm10071518]
9 **Feigel A**, Sylla P. Role of Minimally Invasive Surgery in the Reoperative Abdomen or Pelvis. *Clin Colon Rectal Surg* 2016; **29**: 168-180 [PMID: 28642675 DOI: 10.1055/s-0036-1580637]
10 **PelvEx Collaborative**. Minimally invasive surgery techniques in pelvic exenteration: a systematic and meta-analysis review. *Surg Endosc* 2018; **32**: 4707-4715 [PMID: 30019221 DOI: 10.1007/s00464-018-6299-5]
11 **Kontovounisios C**, Tekkis P, Bello F. 3D imaging and printing in pelvic colorectal cancer: 'The New Kid on the Block'. *Tech Coloproctol* 2019; **23**: 171-173 [PMID: 30656576 DOI: 10.1007/s10151-018-1922-y]
12 **Pomel C**, Rouzier R, Pocard M, Thoury A, Sideris L, Morice P, Duvillard P, Bourgain JL, Castaigne D. Laparoscopic total pelvic exenteration for cervical cancer relapse. *Gynecol Oncol* 2003; **91**: 616-618 [PMID: 14675686 DOI: 10.1016/j.ygyno.2003.08.032]
13 **Vasilescu C**, Tudor S, Popa M, Aldea B, Gluck G. Entirely robotic total pelvic exenteration. *Surg Laparosc Endosc Percutan Tech* 2011; **21**: e200-e202 [PMID: 21857461 DOI: 10.1097/SLE.0b013e3182246c17]
14 **Saqib SU**, Raza MZ, Twigg J, Altan O, Bajwa AA. Feasibility of robotic platform to perform R0 resection for locally advanced multi-visceral pelvic malignancy: an institutional experience on outcomes of robotic pelvic exenteration. *Langenbecks Arch Surg* 2023; **409**: 9 [PMID: 38102305 DOI: 10.1007/s00423-023-03206-7]
15 **Smith N**, Murphy DG, Lawrentschuk N, McCormick J, Heriot A, Warrier S, Lynch AC. Robotic multivisceral pelvic resection: experience from an exenteration unit. *Tech Coloproctol* 2020; **24**: 1145-1153 [PMID: 32662050 DOI: 10.1007/s10151-020-02290-x]
16 **Chan KS**, Liu B, Tan MNA, How KY, Wong KY. Feasibility and safety of minimally invasive multivisceral resection for T4b rectal cancer: A

9-year review. *World J Gastrointest Surg* 2024; **16**: 777-789 [PMID: 38577068 DOI: 10.4240/wjgs.v16.i3.777]

Published by **Baishideng Publishing Group Inc**
7041 Koll Center Parkway, Suite 160, Pleasanton, CA 94566, USA
Telephone: +1-925-3991568
E-mail: office@baishideng.com
Help Desk: https://www.f6publishing.com/helpdesk
https://www.wjgnet.com