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Toward less invasive coloproctology: The future is out there

Sameh Hany Emile, Jonathan Ragheb

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Abstract

Medical care has undergone remarkable improvements over the past few decades. One of the most important innovative breakthroughs in modern medicine is the advent of minimally and less invasive treatments. The trend towards employing less invasive treatment has been vividly shown in the field of gastroenterology, particularly coloproctology. Parallel to foregut interventions, colorectal surgery has shifted towards a minimally invasive approach. Coloproctology, including both medical and surgical management of colorectal diseases, has undergone a remarkable paradigm shift. The treatment of both benign and malignant colorectal conditions has gradually transitioned towards more conservative and less invasive approaches. An interesting paradigm shift was the trend to avoid the need for radical resection of rectal cancer altogether in patients who showed complete response to neoadjuvant treatment. The trend of adopting less invasive approaches to treat various colorectal conditions does not seem to be stopping soon as further research on novel, more effective and safer methods is ongoing.

Key Words: Toward; Less invasive; Minimally invasive; Coloproctology; Future; Colorectal surgery

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Core Tip: One of the most important innovative breakthroughs in modern medicine is the advent of minimally and less invasive treatments. Coloproctology has undergone a remarkable paradigm shift as the treatment of benign and malignant colorectal conditions has gradually transitioned towards less invasive approaches. An important paradigm shift was the trend to avoid the need for radical resection of rectal cancer altogether in patients who showed complete response to neoadjuvant treatment. Another example is the trend toward non-operative management of inflammatory bowel disease and benign anorectal disorders.

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INTRODUCTION

Medical care has undergone remarkable improvements over the past few decades. One of the most important innovative breakthroughs in modern medicine is the advent of minimally and less invasive treatments. The notion that sometimes “less is more” has made clinical researchers across the world contemplate that adequate treatment of a medical or surgical condition should not necessarily be invasive. The concept of “Less is More medicine” was introduced more than a decade ago to address the unfounded presumption that providing more care is always better, as the overuse of medical care may indeed be associated with risks and harm[1].

LESS INVASIVE GASTROENTEROLOGY

The trend towards employing less invasive treatment has been vividly shown in the field of Gastroenterology. Since the first days of rigid gastrointestinal endoscopy in the 1800’s until the present time, gastroenterology has evolved into a minimally invasive specialty of its own. Early gastroenterology began as a primarily diagnostic field to support surgical decision-making, which changed with the advent of Adolf Kussmaul’s rigid endoscope in 1868[2]. For the first time, endoscopic tools such as biopsy forceps could be used for tissue diagnosis as well as therapeutically for relieving food impactions. Decades later, surgeries like Heller’s myotomy or sleeve gastrectomy would meet their endoscopic counterparts, like per oral endoscopic myotomy and endoscopic sleeve gastropasty.

One of the famous examples of treatment paradigm shift is the management of peptic ulcers. For several decades, selective and highly selective vagotomy was the standard of care for peptic ulcers. While effective in healing peptic ulcers, vagotomy was recognized to be a technically demanding and challenging procedure with potentially significant morbidity, particularly when it is combined with antrectomy[3]. These limitations motivated researchers to search for other equally effective yet less invasive treatments and thus proton pump inhibitors (PPIs) were developed. PPIs proved effective in the treatment of peptic ulcers with a well-tolerated safety profile[4], becoming the standard of care for peptic ulcers and replacing vagotomy which is now indicated in a select group of patients with refractory disease[3].

LESS INVASIVE COLOPROCTOLOGY

Parallel to foregut interventions, colorectal surgery has shifted towards a minimally invasive approach. Coloproctology, including both medical and surgical management of colorectal diseases, has undergone a remarkable paradigm shift. The treatment of both benign and malignant colorectal conditions has gradually transitioned towards more conservative and less invasive approaches. In particular, patients with major colorectal diseases, including colorectal cancer and inflammatory bowel disease (IBD), have benefited from the “less is more” treatment concept.

LESS INVASIVE TREATMENT OF IBD

Crohn’s disease is one of the most challenging conditions to treat. Nonetheless, collective evidence has shown that early medical treatment with biological agents may reduce the need for surgery by 37%[5]. In fact, advances in medical management of Crohn’s disease have led to a significant drop in the cumulative incidence of first abdominal surgery performed within five years of diagnosis from 54.8% in 1990-1995 to 17.3% in 2009-2014[6]. Similarly, it has been estimated that most patients with ulcerative colitis will be able to avoid surgery, virtue of the increasing efficacy of modern medical treatment[7]. A study spanning a period of 13 years showed a significant decrease in the incidence of colectomy performed for ulcerative colitis from 36.08/1000 patients/year before the introduction of biologic therapy to 29.99/1000 in the biologic treatment era[8]. Furthermore, minimally invasive interventions such as endoscopic stricturoplasty can be

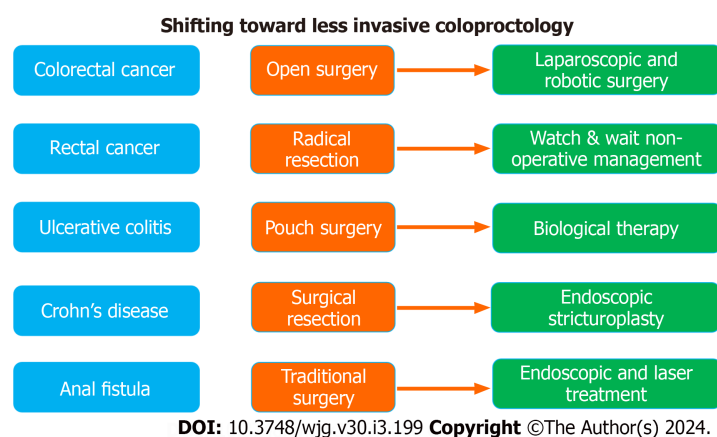


Figure 1 Examples of the shift toward less invasive coloproctology.

considered for Crohn's disease-related strictures instead of conventional surgery[9].

LESS INVASIVE TREATMENT OF COLORECTAL CANCER

Treatment of colorectal cancer has exhibited an important shift toward less invasive management overall and specifically less invasive surgery. Surgical resection of colorectal neoplasms using a laparoscopic or robotic-assisted approach has been increasingly adopted in many hospitals in the world[10]. Minimally invasive surgery for colorectal cancer has provided tangible short-term benefits, including smaller incisions, less pain, faster recovery, and less wound-related complications, yet without compromising the oncologic outcomes[11]. Moreover, rather than doing partial colectomies for low-grade malignant polyps, endoscopic submucosal dissection or full-thickness resection can be alternatively and safely performed[12].

An even more interesting paradigm shift was the trend to avoid the need for radical resection of rectal cancer altogether in patients who showed complete response to neoadjuvant treatment. Habr-Gama *et al*[13] introduced the concept of watch-and-wait non-operative management for rectal cancer in 2015. With the recent advances in neoadjuvant treatments, organ-sparing treatment of rectal cancer has become an option for several patients who otherwise were deemed indicated for radical proctectomy. The introduction of total neoadjuvant therapy (TNT) has further expanded the scope of non-operative treatment of rectal cancer as TNT was associated with more than twice the odds of achieving a complete response as compared to standard treatment. With the use of TNT, approximately 30% of patients with rectal cancer may have the chance to avoid radical surgery and be treated non-operatively[14].

LESS INVASIVE TREATMENT OF ANORECTAL CONDITIONS

Akin to colorectal cancer and IBD, coloproctologists have started to adopt less invasive approaches for benign and frequently diagnosed colorectal conditions such as hemorrhoids, anal fistulas, and pilonidal sinus disease. Although excisional hemorrhoidectomy is considered the standard of care for grade III-IV hemorrhoidal disease owing to its effectiveness, adverse effects namely severe postoperative pain are challenging and sometimes dissuade patients from receiving treatment[15]. These limitations have led to the development of less invasive techniques such as Doppler-guided hemorrhoidal artery ligation[16] and hemorrhoid laser dearterialization[17] which conferred satisfactory results with acceptably low recurrence rates and less postoperative pain compared to excisional hemorrhoidectomy. Similarly, minimally invasive options were devised for complex anal fistulas in an attempt to achieve healing and preserve the anal sphincter muscles. These techniques included video-assisted anal fistula treatment, fistula laser therapy, and stem cell treatment[18-20]. *Figure 1* illustrates different examples of the shift toward less invasive coloproctology.

IMPACT OF MINIMALLY INVASIVE TREATMENTS ON QUALITY OF LIFE

The impact of less invasive treatment approaches on the quality of life of the patients with colorectal diseases has been explored in the literature. Compared to the more invasive open surgery, minimally invasive colorectal resections are associated with better cosmetic outcomes and greater patient satisfaction[21]. Laparoscopic resection of colorectal cancer is also associated with shorter hospital stays and higher quality of life scores than open resection on the short term[22]. Similarly, the adoption of a non-operative management approach may confer better quality of life. In a matched-controlled study, Hupkens *et al*[23] found that watch-and-wait strategy for rectal cancer conferred better quality of life than did radical resection in terms of physical and cognitive function, physical and emotional roles, and global health

status. Non-operative treatment was also associated with fewer defecation, sexual, and urinary functional adverse events. Also, minimally invasive treatment of benign anal conditions may confer better quality of life than conventional treatments. A randomized controlled trial showed that laser hemorrhoidoplasty was followed by higher scores of 36-item Short Form Health Survey questionnaire at six months than Milligan and Morgan hemorrhoidectomy[24].

CONCLUSION

The trend of adopting less invasive approaches to treat various colorectal conditions does not seem to be stopping soon as further research on novel, more effective, and safer methods is ongoing. Perhaps this could be considered an overly optimistic prediction, but the authors of this article anticipate that in the near future, most cases of colorectal cancer and IBD will be subject to non-operative, minimally invasive treatment. However, only time will tell if this prediction proves valid.

FOOTNOTES

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REFERENCES

- 1 Kherad O, Peiffer-Smadja N, Karlafti L, Lember M, Aerde NV, Gunnarsson O, Baicus C, Vieira MB, Vaz-Carneiro A, Brucato A, Lazurova I, Leśniak W, Hanslik T, Hewitt S, Papanicolaou E, Boeva O, Dicker D, Ivanovska B, Yildiz P, Lacor P, Cranston M, Weidanz F, Costantino G, Montano N. The challenge of implementing Less is More medicine: A European perspective. *Eur J Intern Med* 2020; **76**: 1-7 [PMID: 32303454 DOI: 10.1016/j.ejim.2020.04.014]
- 2 Kravetz R. A Look Back: Reflections on Medical History & Artifacts from the Pages of the American Journal of Gastroenterology. Flagstaff: Rudy Ramos Design Studio, 2020
- 3 Lagoo J, Pappas TN, Perez A. A relic or still relevant: the narrowing role for vagotomy in the treatment of peptic ulcer disease. *Am J Surg* 2014; **207**: 120-126 [PMID: 24139666 DOI: 10.1016/j.amjsurg.2013.02.012]
- 4 Scally B, Emberson JR, Spata E, Reith C, Davies K, Halls H, Holland L, Wilson K, Bhala N, Hawkey C, Hochberg M, Hunt R, Laine L, Lanasa A, Patrono C, Baigent C. Effects of gastroprotectant drugs for the prevention and treatment of peptic ulcer disease and its complications: a meta-analysis of randomised trials. *Lancet Gastroenterol Hepatol* 2018; **3**: 231-241 [PMID: 29475806 DOI: 10.1016/S2468-1253(18)30037-2]
- 5 Law CCY, Tkachuk B, Lieto S, Narula N, Walsh S, Colombel JF, Ungaro RC. Early Biologic Treatment Decreases Risk of Surgery in Crohn's Disease but not in Ulcerative Colitis: Systematic Review and Meta-Analysis. *Inflamm Bowel Dis* 2023 [PMID: 37506265 DOI: 10.1093/ibd/izad149]
- 6 Kalman TD, Everhov ÅH, Nordenvall C, Sachs MC, Halfvarson J, Ekblom A, Ludvigsson JF, Myrelid P, Olén O. Decrease in primary but not in secondary abdominal surgery for Crohn's disease: nationwide cohort study, 1990-2014. *Br J Surg* 2020; **107**: 1529-1538 [PMID: 32452553 DOI: 10.1002/bjs.11659]
- 7 Kuehn F, Hodin RA. Impact of Modern Drug Therapy on Surgery: Ulcerative Colitis. *Visc Med* 2018; **34**: 426-431 [PMID: 30675487 DOI: 10.1159/000493492]
- 8 Abou Khalil M, Boutros M, Nedjar H, Morin N, Ghitulescu G, Vasilevsky CA, Gordon P, Rahme E. Incidence Rates and Predictors of Colectomy for Ulcerative Colitis in the Era of Biologics: Results from a Provincial Database. *J Gastrointest Surg* 2018; **22**: 124-132 [PMID: 28808892 DOI: 10.1007/s11605-017-3530-y]
- 9 Navaneethan U, Lourdasamy D. Endoscopic Stricturectomy and Strictureplasty. *Gastrointest Endosc Clin N Am* 2022; **32**: 687-697 [PMID: 36202510 DOI: 10.1016/j.giec.2022.05.002]
- 10 Stănciulea O, Eftimie M, Moșteanu I, Tivadar B, Blăniță D, Popescu I. Minimally Invasive Colorectal Surgery - Present and Future Trends. *Chirurgia (Bucur)* 2019; **114**: 167-173 [PMID: 31060648 DOI: 10.21614/chirurgia.114.2.167]
- 11 Imaizumi K, Homma S, Miyaoka Y, Matsui H, Ichikawa N, Yoshida T, Takahashi N, Taketomi A. Exploration of the advantages of minimally invasive surgery for clinical T4 colorectal cancer compared with open surgery: A matched-pair analysis. *Medicine (Baltimore)* 2022; **101**:

- e29869 [PMID: 35960060 DOI: 10.1097/MD.00000000000029869]
- 12 **Andrisani G**, Hassan C, Pizzicannella M, Pugliese F, Mutignani M, Campanale C, Valerii G, Barbera C, Antonelli G, Di Matteo FM. Endoscopic full-thickness resection vs endoscopic submucosal dissection for challenging colorectal lesions: a randomized trial. *Gastrointest Endosc* 2023; **98**: 987-997.e1 [PMID: 37390864 DOI: 10.1016/j.gie.2023.06.009]
 - 13 **Habr-Gama A**, São Julião GP, Perez RO. Nonoperative management of rectal cancer: identifying the ideal patients. *Hematol Oncol Clin North Am* 2015; **29**: 135-151 [PMID: 25475576 DOI: 10.1016/j.hoc.2014.09.004]
 - 14 **Kasi A**, Abbasi S, Handa S, Al-Rajabi R, Saeed A, Baranda J, Sun W. Total Neoadjuvant Therapy vs Standard Therapy in Locally Advanced Rectal Cancer: A Systematic Review and Meta-analysis. *JAMA Netw Open* 2020; **3**: e2030097 [PMID: 33326026 DOI: 10.1001/jamanetworkopen.2020.30097]
 - 15 **Emile SH**. Evidence-based review of methods used to reduce pain after excisional hemorrhoidectomy. *J of Coloproctology* 2019; **39**: 081-089 [DOI: 10.1016/j.jcol.2018.10.007]
 - 16 **Hoyuela C**, Carvajal F, Juvany M, Troyano D, Trias M, Martrat A, Ardid J, Obiols J. HAL-RAR (Doppler guided haemorrhoid artery ligation with recto-anal repair) is a safe and effective procedure for haemorrhoids. Results of a prospective study after two-years follow-up. *Int J Surg* 2016; **28**: 39-44 [PMID: 26876958 DOI: 10.1016/j.ijsu.2016.02.030]
 - 17 **De Nardi P**, Maggi G, Pagnanelli M, Vlasakov I, Corbetta D. Hemorrhoid laser dearterialization: systematic review and meta-analysis. *Lasers Med Sci* 2023; **38**: 54 [PMID: 36695928 DOI: 10.1007/s10103-022-03703-z]
 - 18 **Emile SH**, Elfeki H, Shalaby M, Sakr A. A Systematic review and meta-analysis of the efficacy and safety of video-assisted anal fistula treatment (VAAFT). *Surg Endosc* 2018; **32**: 2084-2093 [PMID: 29052068 DOI: 10.1007/s00464-017-5905-2]
 - 19 **Elfeki H**, Shalaby M, Emile SH, Sakr A, Mikael M, Lundby L. A systematic review and meta-analysis of the safety and efficacy of fistula laser closure. *Tech Coloproctol* 2020; **24**: 265-274 [PMID: 32065306 DOI: 10.1007/s10151-020-02165-1]
 - 20 **Wang H**, Jiang HY, Zhang YX, Jin HY, Fei BY, Jiang JL. Mesenchymal stem cells transplantation for perianal fistulas: a systematic review and meta-analysis of clinical trials. *Stem Cell Res Ther* 2023; **14**: 103 [PMID: 37101285 DOI: 10.1186/s13287-023-03331-6]
 - 21 **Scarpa M**, Erroi F, Ruffolo C, Mollica E, Polese L, Pozza G, Norberto L, D'Amico DF, Angriman I. Minimally invasive surgery for colorectal cancer: quality of life, body image, cosmesis, and functional results. *Surg Endosc* 2009; **23**: 577-582 [PMID: 18389312 DOI: 10.1007/s00464-008-9884-1]
 - 22 **Ihnát P**, Martinek L, Mitták M, Vávra P, Ihnát Rudinská L, Zonča P. Quality of life after laparoscopic and open resection of colorectal cancer. *Dig Surg* 2014; **31**: 161-168 [PMID: 24992997 DOI: 10.1159/000363415]
 - 23 **Hupkens BJP**, Martens MH, Stoot JH, Berbee M, Melenhorst J, Beets-Tan RG, Beets GL, Breukink SO. Quality of Life in Rectal Cancer Patients After Chemoradiation: Watch-and-Wait Policy Versus Standard Resection - A Matched-Controlled Study. *Dis Colon Rectum* 2017; **60**: 1032-1040 [PMID: 28891846 DOI: 10.1097/DCR.0000000000000862]
 - 24 **Shabahang H**, Maddah G, Mofidi A, Nooghabi MJ, Khaniki SH. A Randomized Clinical Trial of Laser Hemorrhoidoplasty vs Milligan and Morgan Hemorrhoidectomy. *World J Lap Surg* 2019; **12**: 59-63 [DOI: 10.5005/jp-journals-10033-1373]



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