

A Short Note on Colorectal Cancer and Surgery

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Abstract

Colorectal surgery is an established super specialty in most parts of the world. However, in India, this is yet to be recognized as a separate super specialty. Colorectal surgery has a vast scope and needs dedicated training to treat complex colorectal diseases. There is enough scientific evidence to prove that outcomes for such diseases are improved in the hands of dedicated colorectal surgeons. So far in India, the process of granting it the status of a separate super specialty has been initiated but it needs further efforts to formally do so and also start super specialty courses such as MCh/DNB in the field. In this review, we will give a brief historical background of the specialty of colorectal surgery, the scope of colorectal surgery, the scientific evidence to prove that better patient outcomes are achieved in the hands of dedicated colorectal surgeons and finally the journey of efforts that have been carried so far for recognizing this as a separate super specialty in our country. Colorectal surgery has been rapidly evolving over the last few years. Newer technologies and techniques are increasingly being used and have become part of surgical armamentarium. Indeed, much needs to be explored in the field of coloproctology, as the desire to shed light on grey areas is constantly growing, in parallel with the implementation of innovations into clinical practice. The aim of the present Topical Collection is to serve as a forum for critically addressing how the advent of recent technological developments has impacted the outcomes of colorectal surgery, the way patients are managed perioperatively, postoperative recovery, and patient experience throughout an operation. Manuscripts are invited critically assessing the role of minimally invasive approaches, application of artificial intelligence and big data to decision making, perioperative patient optimization, application of translational research in coloproctology, or comparing the outcomes of different innovative approaches to colorectal diseases.

Patients undergoing colorectal surgery experience a physiologic stress response and are at risk of complications and delayed recovery. Attempts to improve recovery have tended to focus on the intraoperative period and the immediate postoperative period (Enhanced Recovery after Surgery, ERAS, and pathways). ERAS reduced overall morbidity, length of hospital stay, and costs by incorporating multimodal optimization of perioperative care first in colorectal surgery and then also in other fields of surgery.

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Introduction

Surgical treatment for colorectal conditions continues to be more common and costlier. Research on non-surgical methods

for reducing complications and perioperative care for improving outcomes is gaining prominence. An important element of perioperative care includes 'prehabilitation,' a concept relatively new to abdominal surgery, and defined as the process of

enhancing an individual's physical functioning before surgery to improve their recovery from surgical stress. There is burgeoning evidence that optimizing preoperative health is a promising approach to improving patient outcomes and reducing costs across the perioperative period among patients with colorectal cancer [1].

Colorectal surgery is an established super specialty in the west and other developed nations, however in India, though it is upcoming but is still considered a part of general surgery. Colon and rectal surgery is one of the oldest recognized specialties. Writings dating as early as 1250 B. C. dealt with anorectal diseases and indicate there were practitioners devoted to this specialty. The history of colorectal surgery is a fascinating journey of continual innovation that spans regions globally and emphasizes the significant advances made in the field. Various ointments, suppositories, and enemas were used by ancient Egyptians for the treatment of diseases of the colon. Greeks performed surgery in the form of cautery, sewing and binding [2]. Later, Romans encouraged the use of surgery for treating perianal fistulas. Surgut about 1000–2000 BC in his Sushrut Samhita described Incision and Drainage of Perianal Abscesses. He also described ligation of piles and devised instruments for anorectal surgery. Patients undergoing colorectal surgery experience a physiologic stress response and are at risk of complications and delayed recovery. Attempts to improve recovery have tended to focus on the intraoperative period and the immediate postoperative period (Enhanced Recovery after Surgery, ERAS, pathways). ERAS reduced overall morbidity, length of hospital stay, and costs by incorporating multimodal optimization of perioperative care first in colorectal surgery and then also in other fields of surgery [3].

Much of the literature on preoperative care among abdominal surgery patients has focused on singular aspects of prehabilitation in cancer care. However, addressing multiple modifiable behavioural risk factors may provide stronger benefits to patients through synergistic effects on health. Considering multiple interdependent domains of health to improve patients' surgical outcomes, particularly quality of life, is consistent with broader recommendations for effective chronic disease management and high-quality care. Some recent literature is starting to explore the concept of multimodal prehabilitation in colorectal cancer, but the science regarding its effective elements is still nascent. Indeed, the only first international randomized control trial for multimodal prehabilitation in colorectal cancer surgical patients is underway. This type of complex intervention aims to address multiple modifiable lifestyle factors (e.g. exercise, smoking, diet) during the pre-operative period (extending the peri-operative Enhanced Recovery after Surgery, ERAS) [4].

The beginning of modern colorectal surgery began in England in 1835, when Frederick Salmon decided to found his own institution named the "Infirmity for the Relief of the Poor afflicted with Fistula and other Diseases of the Rectum," which was later on expanded as the St. Mark's Hospital, London on 25 April 1854. Salmon remained the only surgeon at the Hospital until his retirement in 1859, when he was succeeded by two surgeons carefully chosen to carry on his work [5]. His most notable successors at St. Marks were William and Herbert Allingham,

both of whom helped create the specialty of proctology and continued the successful development of the hospital.

Colorectal cancer

Incidence of colorectal cancer (CRC) in India has increased many folds in the past few decades and is expected to increase further in coming years due to increase in urbanization and rapid changes in lifestyle among the population. Another worrisome issue is the higher incidence of CRC among young patients.[4] This group of patients present more challenge to a surgeon because of their aggressive disease and on top of that their expectations to preserve their sphincters and sexual function [6]. Apart from malignancies, outcomes for benign colorectal diseases are better in the hands of a dedicated colorectal surgeon as compared to general surgeon. A study from Arizona, USA included patients undergoing procedures for benign diseases including abscess drainage, hemorrhoidectomy, fistulectomy, and bowel resections. The population was divided into two groups based on the location of treatment into urban and rural. Various outcome measures that were studied included short-term complications, mortality, and hospital treatment costs. Urban centers (UC) were further divided into centers with colorectal surgeons and centers without colorectal surgeons [7]. A total of 20,617 patients who underwent different surgical procedures for benign colorectal diseases across 496 centers, were included. More than one-third of centers among 342 UCs had colorectal surgeons. After analysing the results, they found that complication rate was low in patients managed at UC, hospital length of stay was shorter and hospital treatment costs were higher as compared to rural centers. On subanalysis, patients managed in UC with colorectal surgeons had lower incidence of short-term complications and a shorter hospital stay when compared with patients managed in UC without colorectal specialization. They concluded that there are disparities in outcomes of patients with benign colorectal diseases managed surgically in urban versus rural centers. Further, specialized care with colorectal surgeons at UC helps in reducing adverse patient outcomes [8, 9].

With more and more knowledge and dedicated experience about CRC, more sphincter saving options have been offered to patients such as intersphincteric resections, ultralow anterior resections, TaTME, TAMIS, TEMS depending on the stage of their presentation. However, all this can be done only once a surgeon has a dedicated high volume experience with such procedures [10].

Conclusion

The concept of super specialization is gaining importance and is growing in every medical field throughout the world. Specialization in various fields of surgery has evolved to provide better care to patients. Specialization provides state-of-art knowledge and care of complex areas, high volumes of routine procedures besides imparting better training and education to postgraduates. The controversy over specialization in surgery has existed since decades, but still newer subspecialties have emerged.

We found an unmet need for preoperative support for patients waiting for colorectal surgery. There was a strong patient

preference for improving mental/emotional health and wellbeing and need for personalised and reliable information that clarified the role of lifestyle modification as preoperative care could improve for surgical outcomes. Since patients' concerns and needs varied considerably, some personalization and flexibility are needed in future interventions so that patients could choose the amount and type of preoperative support they received. This study can help inform future research, policy and delivery of patient-centred multimodal prehabilitation for colorectal surgery,

and highlights that multimodal prehabilitation should incorporate patient preferences.

Acknowledgement

None

Conflict of Interest

None

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