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Advances in Minimally Invasive Surgery for Gastrointestinal Disorders: Improving Patient Outcomes

Kameleia M. Dranze*

Department of Gastroenterology, University of Maribor, Maribor, Slovenia

Introduction

By providing patients with safer, less stressful alternatives to open treatments, Minimally Invasive Surgery (MIS) has completely transformed the profession of gastroenterology. MIS has grown in popularity in the treatment of a variety of gastrointestinal illnesses, from benign to malignant ailments, as a result of technological and methodological developments. The function of MIS in gastroenterology and its effect on patient outcomes are examined in this publication. One of the key advantages of MIS in gastroenterology is its ability to achieve comparable therapeutic outcomes to open surgery while minimizing morbidity and enhancing patient recovery. Laparoscopic and robotic-assisted approaches have become the cornerstone of MIS in gastroenterology, allowing surgeons to perform complex procedures with precision and dexterity through small incisions. By utilizing specialized instruments and high-definition imaging systems, surgeons can navigate the intricate anatomy of the gastrointestinal tract with enhanced visualization, reducing the risk of inadvertent injury to surrounding structures [1,2].

Gastrointestinal disorders encompass a wide spectrum of conditions affecting the digestive system, including the esophagus, stomach, intestines, liver, and pancreas. Traditionally, many of these conditions required invasive surgical interventions with large incisions, resulting in significant postoperative pain, prolonged recovery times, and increased risk of complications. However, the advent of MIS techniques has transformed the surgical landscape by offering patients less invasive options that minimize trauma to surrounding tissues.

Description

MIS offers patients several benefits, including reduced postoperative pain, shorter hospital stays, and faster return to normal activities. Compared to open surgery, MIS procedures are associated with fewer wound complications, reduced blood loss, and lower rates of postoperative infections. These factors contribute to improved patient satisfaction and overall quality of life following surgery. MIS has demonstrated efficacy across a wide range of gastrointestinal conditions, including Gastro Esophageal Reflux Disease (GERD), achalasia, gallbladder disease, Inflammatory Bowel Disease (IBD), and gastrointestinal cancers. In the management of GERD, laparoscopic fundoplication has become the gold standard for surgical treatment, offering durable symptom relief and excellent long-term outcomes [3].

Similarly, in patients with achalasia, laparoscopic Heller myology has emerged as a minimally invasive alternative to open surgical procedures, providing excellent relief of dysphagia with low rates of morbidity. For patients with gallbladder disease, laparoscopic cholecystectomy has replaced open surgery as the preferred approach due to its shorter recovery times and decreased postoperative pain. In the realm of IBD, laparoscopic surgery has revolutionized the management of complications such as strictures, fistulas, and abscesses, offering patients a less invasive option for disease control. Furthermore, in the treatment of gastrointestinal cancers, MIS techniques have enabled surgeons to perform oncologic resections with oncologic outcomes comparable to open surgery while minimizing surgical trauma and preserving quality of life. Despite its numerous advantages, MIS in gastroenterology is not without limitations. Technical challenges, such as limited tactile feedback and two-dimensional visualization, can pose difficulties, particularly in complex procedures. Additionally, the learning curve associated with MIS techniques may require surgeons to undergo specialized training to achieve proficiency. Furthermore, MIS procedures may not be suitable for all patients, particularly those with extensive intra-abdominal adhesions or severe comorbidities [4].

Imaging plays a pivotal role in guiding MIS procedures, providing surgeons with real-time visualization of the operative field and facilitating accurate anatomical delineation. High-definition laparoscopic cameras and three-dimensional imaging systems have revolutionized the way surgeons visualize intra-abdominal structures, enabling them to navigate complex anatomy with greater confidence and precision. Additionally, intraoperative imaging modalities such as laparoscopic ultrasound and fluorescence-guided imaging have augmented the surgical armamentarium, allowing for real-time assessment of tissue perfusion and localization of tumors.

Surgical instrumentation has also undergone significant advancements, with the development of specialized minimally invasive instruments designed to optimize surgical ergonomics and enhance dexterity. Articulating laparoscopic instruments, robotic-assisted surgical platforms, and advanced energy devices have facilitated intricate tissue dissection, hemostasis, and suturing, allowing surgeons to perform complex procedures with greater efficiency and accuracy. Furthermore, innovations in tissue sealing and stapling technologies have minimized the risk of intraoperative bleeding and leakage, reducing the incidence of postoperative complications [5].

Conclusion

With its safer, less intrusive alternatives to open surgery, MIS has revolutionised the discipline of gastroenterology and improved patient outcomes and quality of life. For many gastrointestinal disorders, MIS has become the gold standard of care thanks to developments in technology, surgical technique, and perioperative care. It offers patients individualised treatment options that are catered to their specific requirements. In the future, MIS in gastroenterology may undergo additional development and improvement as surgical methods and technology develop further, which would eventually benefit patients and enhance surgical results.

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***Address for Correspondence:** Kameleia M. Dranze, Department of Gastroenterology, University of Maribor, Maribor, Slovenia, E-mail: dranze.km@hotmail.com*

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Conflict of Interest

None.

References

1. Blundell, John, Graham Finlayson, Mads Axelsen and Anne Flint, et al. "Effects of once-weekly semaglutide on appetite, energy intake, control of eating, food preference and body weight in subjects with obesity." *Diabetes Obes Metab* 19 (2017): 1242-1251.
2. Pratley, Richard E., Jahoon Kang, Michael E. Trautmann and Marcus Hompesch, et al. "Body weight management and safety with efpeglenatide in adults without diabetes: A phase II randomized study." *Diabetes Obes Metab* 21 (2019): 2429-2439.
3. Van Can, J., B. Sloth, C. B. Jensen and A. Flint, et al. "Effects of the once-daily GLP-1 analog liraglutide on gastric emptying, glycemic parameters, appetite and energy metabolism in obese, non-diabetic adults." *Int J Obes* 38 (2014): 784-793.
4. Kadouh, Hoda, Victor Chedid, Houssam Halawi and Duane D. Burton, et al. "GLP-1 analog modulates appetite, taste preference, gut hormones, and regional body fat stores in adults with obesity." *J Clin Endocrinol Metab* 105 (2020): 1552-1563.
5. Pi-Sunyer, Xavier, Arne Astrup, Ken Fujioka and Frank Greenway, et al. "A randomized, controlled trial of 3.0 mg of liraglutide in weight management." *N Engl J Med* 373 (2015): 11-22.

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