



SYNERGISTIC IMPACT OF ERAS PROTOCOLS AND SURGICAL APPROACH: A COMPARATIVE STUDY OF OPEN VERSUS LAPAROSCOPIC ABDOMINAL SURGERIES

General Surgery

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ABSTRACT

Enhanced Recovery After Surgery (ERAS) protocols aim to reduce perioperative stress, accelerate recovery, and improve outcomes for surgical patients. This study compares the clinical outcomes of ERAS implementation in patients undergoing open versus laparoscopic abdominal surgeries. Data from 100 patients were analyzed with 50 in each group. Parameters such as time to ambulation, oral intake, duration of hospital stay, and postoperative complications were evaluated. Laparoscopic surgery under ERAS showed significantly better outcomes across most metrics. This analysis highlights the synergy between minimally invasive techniques and ERAS protocols in optimizing surgical recovery.

KEYWORDS

ERAS, Laparoscopic Surgery, Open Surgery, Postoperative Recovery, Hospital Stay, Minimally Invasive

INTRODUCTION

The evolution of surgical care has led to the integration of Enhanced Recovery After Surgery (ERAS) protocols in elective abdominal procedures, aiming to reduce physiological stress, accelerate functional recovery, and shorten hospitalization. While ERAS has been widely adopted in colorectal surgery, its implementation across various types of abdominal operations, including both open and laparoscopic approaches, is still evolving. Laparoscopy, with its reduced tissue trauma and faster mobilization, may amplify the benefits of ERAS. This study explores the comparative efficacy of ERAS when applied to open versus laparoscopic abdominal surgeries in a real-world tertiary care setting.



AIMS AND OBJECTIVES

- To compare the clinical outcomes of ERAS protocols in patients undergoing open versus laparoscopic abdominal surgeries.
- To assess key recovery parameters such as time to ambulation, resumption of oral intake, length of hospital stay, and postoperative complications.
- To evaluate the safety and feasibility of implementing ERAS uniformly across different surgical approaches.

MATERIAL AND METHODOLOGY

A prospective observational study was carried out involving 100 adult patients undergoing elective abdominal surgeries, divided into Group A (open surgery) and Group B (laparoscopic surgery), each with 50 patients. All patients were managed under a standardized ERAS protocol. Key outcomes including time to ambulation, oral intake initiation, hospital stay, and postoperative complication rates were recorded.

Exclusion criteria included emergency surgeries, concurrent major organ resections, and ASA grade IV or above.

- Group A (n=50): Open abdominal surgeries
- Group B (n=50): Laparoscopic abdominal surgeries

Both groups followed the ERAS protocol, which included:

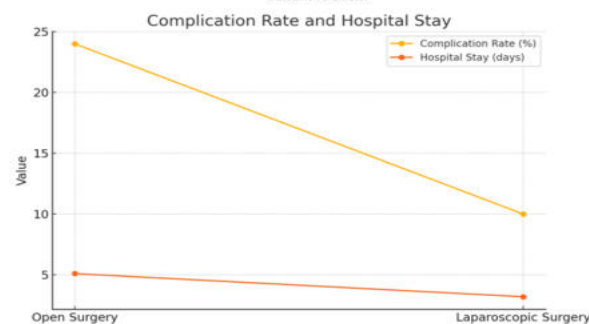
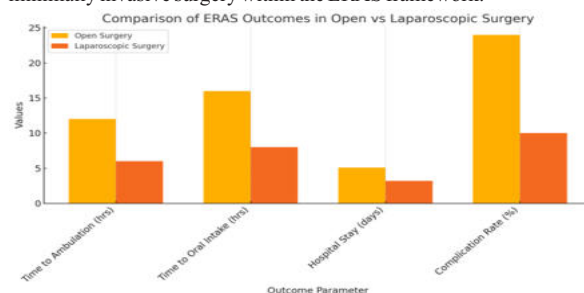
- Preoperative counseling and nutrition
- Avoidance of mechanical bowel preparation
- No routine nasogastric tube or drains
- Early mobilization post-surgery
- Early enteral feeding (within 6–8 hours)

Parameters assessed included:

- Time to ambulation
- Time to oral intake
- Pain scores (VAS)
- Length of hospital stay
- Postoperative complications

RESULTS

Patients in the laparoscopic group (Group B) showed better outcomes with mean ambulation time of 6 hours compared to 12 hours in the open surgery group (Group A). Initiation of oral intake occurred at an average of 8 hours in Group B versus 16 hours in Group A. Hospital stay was shorter for Group B (3.2 ± 1.1 days) than Group A (5.1 ± 1.7 days). Complication rates were lower in the laparoscopic group (10%) compared to the open group (24%). These differences were statistically significant ($p < 0.05$), highlighting the advantage of minimally invasive surgery within the ERAS framework.



CONCLUSION

The integration of ERAS protocols significantly improves postoperative recovery, especially when combined with laparoscopic surgery. Our study supports the adoption of ERAS as a standard of care in abdominal surgeries due to its impact on reducing complications, accelerating recovery, and shortening hospital stays. The surgical approach plays a crucial role, with laparoscopy offering a distinct advantage in enhancing ERAS outcomes. Broader implementation of ERAS principles, tailored to surgical modality, can redefine perioperative standards in abdominal surgery.

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