



UNVEILING COMPLEXITY :AN INDEPTH ANALYSIS OF INTESTINAL STOMAS –INDICATIONS,COMPLICATIONS AND SURGICAL OUTCOMES

General Surgery

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ABSTRACT

Background: Intestinal stomas serve as openings for faecal diversion, playing a crucial role in various surgical procedures. This prospective study conducted at the surgical unit of Great Eastern Medical School and Hospital from April 2022 to March 2023 aimed to identify common indications for intestinal stomas and assess associated complications. **Methodology:** Data collection involved thorough history-taking, encompassing age, gender, indication, stoma type, surgery type, clinical examination, operative findings, and follow-up. The study included 100 patients, with ages ranging from 12 to 85 years (mean age 50.5 plus/minus 29.01 years), exhibiting a male-to-female ratio of 7:3. Ninety-seven patients were admitted in emergency, and three in the outpatient department. The most prevalent stoma types were loop ileostomy (64%), sigmoid colostomy (11%), and transverse loop colostomy (9%). The primary indication for stoma formation was enteric perforation (38%), followed by Koch's abdomen (18%). Complications included peristomal skin irritation (36%) and laparotomy wound infection (13%). **Result:** Analysis and comparison of results with other studies revealed a diverse range of complications despite the extensive experience of general surgeons in stoma formation. Peristomal skin irritation emerged as the most consistent complication, emphasizing the importance of early detection and timely management. **Conclusion:** Despite the familiarity of general surgeons with stoma formation, complications remain inevitable. The study underscores the significance of early complication detection and prompt management as crucial components in optimizing patient outcomes.

KEYWORDS

Intestinal stoma, Indications, Complications

INTRODUCTION

The word "Stoma" comes from the Greek word meaning mouth or opening. An intestinal stoma is an opening of the intestine on anterior abdominal wall made surgically. Intestinal stomas, surgical procedures involving the creation of an opening for faecal diversion, play a pivotal role in the management of various gastrointestinal conditions. These procedures are performed to address a wide spectrum conditions, ranging from acute emergencies such as enteric perforations to chronic issues like Koch's abdomen. It may be temporary or permanent; depending on their role. Though a life saving procedure, it may result in significant number of complications. Complications are divided into early complications (up to 30 days after operation) and late complications (more than 30 days after operation). By delving into patient demographics, stoma types, surgical nuances, and subsequent complications, this study endeavours to contribute valuable insights to the evolving landscape of gastrointestinal surgery, ultimately emphasizing the importance of early detection and timely intervention in optimizing the success or intestinal stoma procedures. The aim of our study is therefore to evaluate our own experience and determine the complications and type and location of the respective ostomy

Methodology

Study Design: A prospective observational study was conducted at the surgical unit of great eastern medical school and hospital , spanning from April 2022 to March 2023. The study aimed to investigate the indications for intestinal stomas and analyze the associated complications.

Study Participants:

A total of 100 patients, aged between 12 and 85 years, who underwent intestinal stoma procedures during the study period were included. The male-to-female ratio was approximately 7:3. Of the participants, 97 were admitted through the emergency department, while three were managed in the outpatient department

Data Collection:

Comprehensive data was collected through meticulous history-taking, including age, gender, indication for stoma creation, type of stoma, surgical procedures, clinical examination, and operative findings. Follow-up data on postoperative complications and their management were also documented.

Statistical Analysis:

Collected data were analyzed using descriptive statistics to determine frequencies and percentages. Comparative analysis was performed to assess the relationship between different variables. The results were then compared with existing literature to provide a broader context for the findings.

Ethical Considerations:

This study was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki. Informed consent was obtained from all participants, and the study protocol was approved by the institutional review board.

Data Analysis:

The collected data were subjected to statistical analysis using appropriate software. Frequencies, percentages, and means were calculated to describe the demographic characteristics, indications, and complications associated with intestinal stomas. Comparative analyses were conducted to assess the significance of observed patterns in relation to existing studies.

Limitations:

This study has inherent limitations, including its single-center nature and the relatively small sample size. The findings may not be universally applicable, and further multicenter studies with larger cohorts are warranted to validate the results. Despite these limitations, the study provides valuable insights into the indications and complications of intestinal stomas, contributing to the existing body of knowledge and guiding future research in this field.

RESULTS:

Demographic Characteristics: A cohort of 100 patients participated in the study, with ages ranging from 12 to 85 years (mean age 50.5 plus/minus 29.01 years). The male-to-female ratio was 7:3, with 97 patients admitted through the emergency department and three managed in the outpatient department.

Types of Stomas:

The predominant type of stoma created was the loop ileostomy, representing 64% of cases. Sigmoid colostomy and transverse loop colostomy were the next most frequent, accounting for 11% and 9% of

cases, respectively. Indications for Stoma Formation: Enteric perforation emerged as the leading indication for stoma formation, constituting 38% of cases. Koch's abdomen was the second most prevalent indication, observed in 18% of cases.

Complications:

Postoperative complications were diverse, with peristomal skin irritation being the most consistent, reported in 36% of cases. Laparotomy wound infection ranked as the second most common complication, occurring in 13% of cases.

Comparison with Existing Studies:

Comparative analysis with existing literature highlighted both congruities and disparities in the prevalence of indications and complications associated with intestinal stomas. While certain patterns aligned with established trends, variations in complication frequencies underscored the nuanced nature of postoperative outcomes.

DISCUSSION:

Despite the wealth of experience among general surgeons in performing stoma formations, complications proved to be an inevitable aspect of these procedures. The notable incidence of peristomal skin irritation underscores the importance of preventive strategies and timely intervention to enhance patient well-being and optimize overall surgical outcomes.

CONCLUSION:

In conclusion, this study offers valuable insights into the indications and complications of intestinal stomas. The persistence of complications, despite the proficiency of general surgeons, emphasizes the ongoing challenges in refining surgical practices. Early detection and prompt management of complications emerge as pivotal elements in addressing these challenges and improving the overall success of intestinal stoma procedures. Discussion: The findings of this study provide a comprehensive understanding of the indications and complications associated with intestinal stomas, shedding light on crucial aspects of gastrointestinal surgery.

DISCUSSION:

1. Prevalence of Complications:

Despite the expertise of general surgeons in performing stoma formations, the study revealed a notable incidence of complications. Peristomal skin irritation emerged as the most consistent complication, affecting a substantial proportion of patients (36%). This finding emphasizes the need for heightened attention to peri-stomal care and preventive measures to minimize this common complication.

2. Indications for Stoma Formation:

Enteric perforation was identified as the primary indication for stoma formation in 38% of cases. This aligns with the acute nature of perforations, often necessitating urgent intervention. The prevalence of Koch's abdomen as an indication (18%) highlights the complexity of abdominal conditions requiring surgical diversion, indicating a diverse range of underlying pathologies.

3. Types of Stomas:

The predominance of loop ileostomy (64%) as the most common stoma type is consistent with its versatility and ease of creation. The variations in stoma types reflect the adaptability of surgeons in choosing the most suitable option based on the specific clinical scenario.

4. Comparative Analysis:

The comparison of results with existing literature revealed both similarities and differences. While certain trends were in line with established norms, the variations in complication frequencies underscore the multifactorial nature of postoperative outcomes. These differences could be influenced by patient demographics, surgical techniques, or institutional practices.

5. Importance of Early Detection and Management:

The high incidence of complications reinforces the significance of early detection and prompt management. Peristomal skin irritation, in particular, demands proactive measures to alleviate discomfort and prevent further complications. Timely intervention in cases of laparotomy wound infection is crucial to curtail the potential spread of infection and ensure optimal recovery.

Limitations:

The study acknowledges inherent limitations, including its single-center nature and a relatively modest sample size. These limitations necessitate caution in generalizing the findings to broader populations. Larger, multi-center studies would be instrumental in corroborating and expanding upon the observed trends. In conclusion, this study contributes valuable insights into the intricate landscape of intestinal stomas. The prevalence of complications, despite the expertise of surgeons, underscores the continuous need for refinement in surgical practices.

Early detection and proactive management of complications emerge as pivotal components in addressing challenges and enhancing the overall success of intestinal stoma procedures. The study's findings provide a foundation for ongoing efforts to optimize patient care in gastrointestinal surgery.

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