

Original Article

# Stapled Hemorrhoidopexy vs. Open Hemorrhoidectomy: A Comparative Study of Short-Term Results

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## ABSTRACT

**Background:** This study aimed to perform a comparative analysis of the short-term outcomes of stapled hemorrhoidopexy and open hemorrhoidectomy. The objective was to assess factors such as age distribution, length of hospital stay, postoperative discomfort, and time taken to return to regular work, to understand the relative merits of these surgical methods in treating hemorrhoids.

**Methods:** This retrospective comparative study reviewed stapled hemorrhoidopexy and open hemorrhoidectomy cases conducted at the surgical OPD/Ward of Mardan Medical Complex from January 2023 to August 2023. Patients who underwent either procedure and were in the age groups of 15–25, 26–35, or 36–60 years met the inclusion criteria. The study analyzed patient demographics, surgical techniques, and postoperative outcomes. Statistical analyses, including chi-square and t-tests, were utilized to evaluate the significance of differences in age distribution, hospital stay length, postoperative discomfort, and time to return to regular work.

**Results:** A total of 84 cases were included in the study. Significant differences were observed between stapled hemorrhoidopexy and open hemorrhoidectomy in terms of age distribution, hospital stay length, and time to resume normal routine work. Statistically significant differences were found in the duration of hospital stays ( $p=0.002$ ), time to return to normal routine work ( $p=0.05$ ), and among the 15 to 25 age group ( $p=0.04$ ). While there was a trend towards significance in postoperative pain ( $p=0.06$ ), further research is needed for a conclusive understanding.

**Conclusion:** This study provides insights into the short-term outcomes of open hemorrhoidectomy and stapled hemorrhoidopexy, emphasizing the importance of recovery period, age, and hospital stay duration. These results contribute valuable new information to the field of hemorrhoid surgical treatments, aiding physicians in tailoring treatment plans to individual patient needs for optimal outcomes. Further research is recommended to explore the long-term effects and subtle aspects of postoperative pain associated with these surgeries.

**Keywords:** Age distribution, comparative study, hemorrhoidectomy, hospital stay, postoperative pain, recovery, short-term outcomes, stapled hemorrhoidopexy.

## INTRODUCTION

Hemorrhoids are a common anorectal condition characterized by pathological anal cushions that can cause bleeding, discomfort, and protrusion outside the anal canal. They potentially affect 30% to 40% of the population at some point in life(1). Hemorrhoids are often considered a consequence of an upright posture in humans(2). There are two types: external hemorrhoids, which are skin-covered vascular plexuses outside the anal canal, and internal hemorrhoids, originating from the subepithelial plexus above the dentate line(3).

Internal hemorrhoids can be classified into four grades based on the degree of prolapse according to Goligher's classification: Grade I involves bleeding without prolapse; Grade II includes hemorrhoids that prolapse but spontaneously reduce; Grade III consists of constantly prolapsing hemorrhoids that are irreducible; and Grade IV includes those that prolapse outside the anal canal and require manual reduction. This classification, however, does not always correlate directly with the severity of symptoms(4, 5).

Clinical symptoms vary and can include bleeding, discomfort, mucous discharge, itching, and rectal protrusion(6). The most common symptom is painless rectal bleeding during defecation, often described as blood trickling into the toilet bowl. The bright red color of the blood is attributed to the direct arteriovenous connection in the hemorrhoidal mass(7, 8).

Medical management includes dietary and lifestyle modifications, laxatives, stool softeners, and the use of oral calcium dobesilate and flavonoids(9, 10). These treatments are standard for managing first and second-degree hemorrhoids. Non-surgical options such as rubber band ligation, cryotherapy, infrared coagulation, and sclerotherapy are also available(11, 12).

Despite these treatments, hemorrhoidectomy remains a common surgical option. However, a newer, minimally invasive alternative is the Minimally Invasive Procedure for Hemorrhoids (MIPH), or stapled hemorrhoidopexy(13, 14). This study aims to compare the short-term outcomes of stapled hemorrhoidopexy and traditional open hemorrhoidectomy, exploring the effectiveness and recovery implications of these two surgical approaches(15).

## MATERIAL AND METHODS

This study focused on evaluating the short-term outcomes of stapled hemorrhoidopexy versus open hemorrhoidectomy at the surgical OPD/Ward of Mardan Medical Complex from January 2023 to August 2023. A retrospective comparative approach was employed to examine cases of both stapled hemorrhoidopexy and open hemorrhoidectomy completed during this period. The inclusion criteria encompassed patients who underwent either of these procedures(16). Exclusion criteria were incomplete medical records, concurrent participation in other studies, or underlying medical conditions that could influence the outcomes(17).

Patient data, including age, gender, type of surgery, and postoperative results, were extracted from medical records. The study analyzed factors such as age groups (15–25, 26–35, 36–60 years), length of hospital stay (1-2 days, 4-5 days), postoperative pain scale (1+, 3+), and time taken to return to regular employment (4-5 days, 12–16 days). Statistical analysis was conducted using t-tests for continuous variables and chi-square tests for categorical variables, with a significance threshold set at  $p < 0.05$ (18, 19). Ethical approval was obtained from the committee, ensuring patient confidentiality and adherence to ethical standards.

## RESULTS

The table 1 presents data from a study comparing stapled hemorrhoidopexy and open hemorrhoidectomy, with a total of 84 cases divided equally between the two surgical methods (42 cases each). Age group distribution among these cases shows that in the 15-25 age group, 18 cases were reported, with 7 and 11 cases for stapled and open surgery, respectively, yielding a significant p-value of 0.04. In the 26-35 age group, 42 cases were observed (19 stapled, 23 open), and in the 36-60 age group, there were 24 cases (6 stapled, 18 open). Regarding the length of hospital stay, it's categorized into two groups: 1-2 days and 4-5 days, with a p-value of 0.002, indicating a significant difference between the two surgical methods. For post-operative pain, measured on a scale of 1+ to 3+, the p-value was 0.06. Finally, the time taken to return to normal routine work was analyzed, categorized into 4-5 days and 12-16 days, showing a p-value of 0.05, which suggests a significant difference between the two surgical techniques in terms of recovery time.

Table: 1 variable with their details

variables	Total cases=84	Staples surgery n=42	Open surgery N=42	p-value
Age group	15-25	18	11	0.04
	26-35	42	23	
	36-60	24	18	
Hospital stay in days		1-2	4-5	0.002
Post-operative pain per scale		1+	3+	0.06
Normal routine work in days		4-5	12-16	0.05

The table 2 displays the distribution of symptoms among patients in a study, with each symptom accompanied by its respective percentage out of the total cases. Bleeding was reported in 21 cases, accounting for 25% of the total. Discharge was the most common symptom, observed in 38 cases, making up 45% of the total. Itching was noted in 16 cases, constituting 18% of the total, while pain was reported in 9 cases, representing 12% of the study population.

Table 2: symptoms with their percentages

Symptoms	percentages
Bleeding	21 (25%)
Discharge	38 (45%)
Itching	16 (18%)
Pain	9 (12%)

## DISCUSSION

Rectal bleeding, typically painless and occurring during bowel movements, is the primary clinical symptom of hemorrhoids. Patients often describe this bleeding as fresh blood observed in the toilet bowl. Current study compared stapled surgery (n = 42) and open surgery (n = 42), providing new insights into the outcomes of these surgical procedures. Other symptoms include mucus discharge, discomfort, and protrusion from the rectum. Surgery is generally recommended for third and fourth-degree hemorrhoids, with various available methods, each having its own advantages and disadvantages(1).

A statistically significant difference was noted in age distribution ( $p=0.04$ ) among the cases. Specifically, the 15–25 age group was more frequently associated with open surgery (11 cases) than stapled surgery (7 cases). In contrast, the 26–35 age group showed a higher proportion in stapled surgery (19 cases) compared to open surgery (23 cases). The 36–60 age group also demonstrated a significant difference, with 18 cases in open surgery versus 6 in stapled surgery(20).

Regarding hospital stay length, a significant difference was observed ( $p=0.002$ ), with a greater proportion of stapled surgery cases requiring 4-5 days compared to 1-2 days in open surgery. The "stapled hemorrhoidectomy," invented by Antonio Longo in 1998 during the World Endoscopic Meeting in Rome, has shown excellent outcomes and faster recovery, leading to its widespread acceptance due to its reduced postoperative discomfort(21).

Postoperative pain, while not statistically significant ( $p=0.06$ ), showed a trend towards higher pain scores in stapled surgery patients. A notable difference was also seen in the time taken to resume routine work ( $p=0.05$ ), with stapled surgery patients typically taking 12–16 days compared to 4-5 days for those undergoing open surgery(22).

Table 2 lists the symptoms observed postoperatively in all 84 cases. Bleeding was noted in 25% of cases, discharge in 45%, itching in 18%, and pain in 12%. These figures indicate the prevalence of postoperative symptoms, highlighting the importance of effective postoperative care and patient education.

The findings underscore the necessity of understanding symptom incidence and distribution to enhance patient outcomes and postoperative management. Further research on these symptoms and their relationship to specific surgical techniques could aid in developing more tailored surgical treatment strategies(23).

## CONCLUSION

This study provides important insights into the short-term outcomes of both stapled and open hemorrhoidectomy, underlining the importance of factors such as age, length of hospital stay, and duration of postoperative recovery. The results contribute significantly to the field of hemorrhoid surgical treatments, aiding healthcare professionals in customizing treatment plans to meet the unique needs of each patient and achieve the best possible outcomes. Further research is recommended to explore the finer details of postoperative pain and the long-term effects of these surgical procedures. A comprehensive understanding of these treatments will enhance patient care and treatment efficacy in the field of proctology.

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