Biomedical and Biopharmaceutical Research
Abbreviation: Biomed. Biopharm. Res.
Volume: 22: Issue: 01 |Year: 2025
Page Number: 475-480

ASSESSMENT OF STAPLED HAEMORRHOIDOPEXY IN HAEMORRHOIDS MANAGEMENT

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Article Received:26-02-2025

Article Accepted:21-04-2025

ABSTRACT

Background: Hemorrhoids are a common anorectal condition that significantly affects quality of life. Stapled hemorrhoidopexy has emerged as an alternative to conventional hemorrhoidectomy, aiming to reduce postoperative pain and recovery time. This study evaluates the outcomes of stapled hemorrhoidopexy in patients with Grade II to IV hemorrhoids.

Methods: A prospective study was conducted on 100 patients with symptomatic Grade II to IV hemorrhoids who underwent stapled hemorrhoidopexy. Parameters assessed included operative time, postoperative pain (measured by Visual Analog Scale), hospital stay, time to return to normal activities, and postoperative complications. Patients were followed up for one year to monitor recurrence and late complications.

Results: The mean operative time was 35 ± 8 minutes. Postoperative pain scores were low, with a mean VAS score of 4.5 ± 1.2 at 6 hours, 3.0 ± 1.1 at 24 hours, and 1.0 ± 0.5 at 1 week. The mean hospital stay was 2 ± 0.5 days, and patients resumed normal activities within 7 ± 2 days. Postoperative complications included mild bleeding (5%), urinary retention (8%), severe pain (10%), staple line dehiscence (2%), anal stenosis (1%), and recurrence (3%) at one year. No cases of fecal incontinence were reported.

Conclusion: Stapled hemorrhoidopexy is a safe and effective procedure for treating Grade II to IV hemorrhoids, offering advantages of reduced postoperative pain, shorter hospital stay, and faster recovery. Although recurrence remains a concern over long-term follow-up, early outcomes are favorable, highlighting stapled hemorrhoidopexy as a valuable alternative to conventional hemorrhoidectomy.

Keywords: Stapled hemorrhoidopexy, hemorrhoids, postoperative pain, recurrence, surgical outcomes.

INTRODUCTION

Hemorrhoids are vascular cushions located within the anal canal, which contribute to the maintenance of continence. Pathological hemorrhoids occur when these cushions become enlarged, symptomatic, or prolapsed [1]. It is estimated that around 50% of the population above the age of 50 years suffer from hemorrhoidal symptoms at some point in their lives [2]. Patients typically present with symptoms such as bleeding per rectum, prolapse, pain, pruritus, and mucous discharge, significantly affecting their quality of life.

Conventional hemorrhoidectomy, including the Milligan-Morgan open hemorrhoidectomy and the Ferguson closed hemorrhoidectomy, has long been considered the gold standard treatment for Grade III and IV hemorrhoids [3]. However, despite its effectiveness, traditional excisional hemorrhoidectomy is associated with substantial postoperative pain, longer hospital stays, delayed return to work, and potential complications such as anal stenosis and incontinence [4,5]. These limitations have prompted the search for alternative surgical techniques that offer effective symptom relief with reduced morbidity.

Stapled hemorrhoidopexy, also known as procedure for prolapse and hemorrhoids (PPH), was introduced by Antonio Longo in 1998 [6]. This technique represents a paradigm shift by addressing hemorrhoidal prolapse through mucosal resection and repositioning, rather than excision of hemorrhoidal tissue itself. Using a circular stapling device, a circumferential ring of prolapsed rectal mucosa and submucosa is excised approximately 2–4 cm above the dentate line, thereby repositioning hemorrhoidal tissue and reducing its vascular supply [7].

Multiple studies have demonstrated that stapled hemorrhoidopexy offers several advantages over conventional hemorrhoidectomy, including significantly less postoperative pain, shorter operative time, decreased hospital stay, and

faster return to daily activities [8,9]. Furthermore, because the procedure is performed above the highly innervated anoderm, patients experience less pain compared to the traditional method [10].

Despite these benefits, stapled hemorrhoidopexy is not without drawbacks. Complications such as postoperative bleeding, staple line dehiscence, rectal perforation, pelvic sepsis, anal stenosis, and recurrence of hemorrhoidal symptoms have been reported [11,12]. Some meta-analyses suggest that while early postoperative outcomes are better with stapled hemorrhoidopexy, the long-term recurrence rates may be slightly higher compared to conventional hemorrhoidectomy [13].

Given the evolving landscape of hemorrhoidal disease management, and recognizing the need to balance short-term benefits with long-term efficacy, this prospective observational study was designed. Our study aims to assess the outcomes of stapled hemorrhoidopexy in patients with Grade II to IV hemorrhoids over a period of one year, evaluating parameters such as postoperative pain, complication rates, hospital stay, time to return to normal activity, and recurrence rates. This collaborative study between Sri Atal Bihari Vajpayee Medical College and Research Institute and Raja Rajeshwari Medical College and Hospital, Bengaluru, intends to contribute to the growing body of evidence guiding optimal management strategies for hemorrhoidal disease.

MATERIAL AND METHODS

This prospective observational study was conducted over a period of one year, in collaboration between the Department of General Surgery, Sri Atal Bihari Vajpayee Medical College and Research Institute, Bengaluru, and Raja Rajeshwari Medical College and Hospital, Bengaluru.

Study Population

A total of 100 patients diagnosed with symptomatic Grade II to Grade IV hemorrhoids, and meeting the inclusion criteria, were enrolled in the study.

Inclusion Criteria

- Patients aged 18 years and above.
- Patients with symptomatic Grade II, III, or IV hemorrhoids.
- Patients willing to undergo stapled hemorrhoidopexy.
- Patients providing written informed consent.

Exclusion Criteria

- Patients with associated anal fissures, fistulas, or malignancies.
- Patients with recurrent hemorrhoids after prior surgery.
- Patients with bleeding disorders or severe comorbidities contraindicating surgery.
- Pregnant women.

Preoperative Assessment

All patients underwent a detailed clinical evaluation including history, physical examination, and proctoscopic examination. Routine hematological and biochemical investigations were performed along with fitness evaluation for anesthesia.

Surgical Procedure

All patients underwent stapled hemorrhoidopexy under spinal or general anesthesia, depending on the anesthetist's discretion and patient's condition. The procedure was carried out following standard operative protocols using a circular stapling device. Key operative steps included:

- Dilatation of the anal canal.
- Insertion of a circular anal dilator and purse-string suture placement above the hemorrhoidal tissue.
- Firing of the stapler to excise a circumferential ring of rectal mucosa and submucosa, repositioning hemorrhoidal tissue back into the anal canal.

Postoperative Management

Patients were monitored postoperatively for pain, bleeding, urinary retention, and other immediate complications. Analgesics, antibiotics, and stool softeners were prescribed routinely. Patients were discharged once stable, typically within 24–48 hours.

Follow-up

Patients were followed up at 1 week, 1 month, 3 months, 6 months, and 12 months postoperatively. Assessment parameters included postoperative pain (using Visual Analog Scale), hospital stay duration, time to return to normal activities, postoperative complications (bleeding, anal stenosis, incontinence), and recurrence rates.

Data Collection and Statistical Analysis

Data were recorded systematically using a predesigned proforma. Statistical analysis was performed using appropriate software. Categorical variables were expressed as percentages and continuous variables as mean ± standard deviation. Chi-square test and Student's t-test were used where applicable. A p-value of <0.05 was considered statistically significant.

Ethical clearance was obtained from the institutional ethical committees of both participating institutions before the commencement of the study.

RESULTS AND OBSERVATIONS;

The present study enrolled 100 patients with symptomatic Grade II to IV hemorrhoids who underwent stapled hemorrhoidopexy. Observations regarding demographic details, operative findings, postoperative outcomes, and complications are summarized below.

Table 1: Demographic Profile of Patients

Characteristic	Number (n=100)	Percentage (%)
Age (years)		
18–30	20	20%
31–45	50	50%
>45	30	30%
Gender		
Male	62	62%
Female	38	38%

Table 1 shows the demographic profile of 100 patients. The age distribution includes 20% in the 18–30 years range, 50% in the 31–45 years range, and 30% above 45 years. In terms of gender, 62% are male, and 38% are female.

Table 2: Grade of Hemorrhoids

Grade of Hemorrhoids	Number (n=100)	Percentage (%)
Grade II	15	15%
Grade III	65	65%
Grade IV	20	20%

Table 2 presents the distribution of hemorrhoid grades among 100 patients. It shows that 15% of patients have Grade II hemorrhoids, 65% have Grade III hemorrhoids, and 20% have Grade IV hemorrhoids.

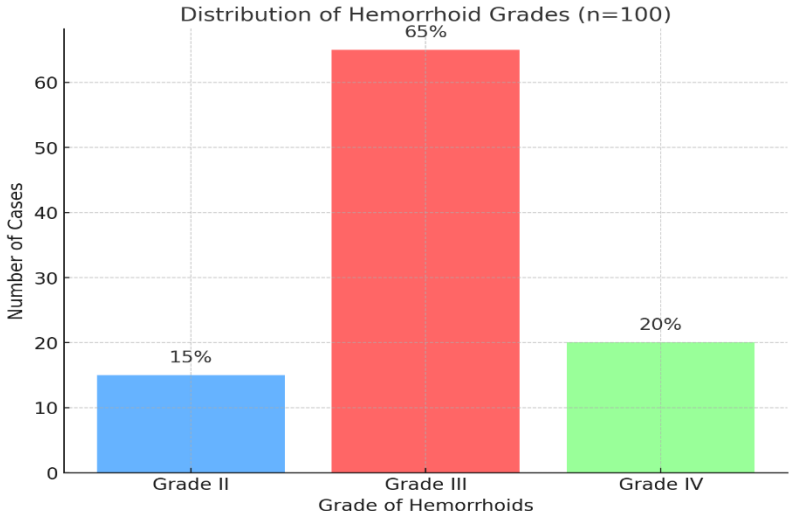


FIGURE 1 Distribution of hemorrhoid grades (n=100)

The figure illustrates the distribution of hemorrhoid grades in 100 patients, with the majority (65%) having Grade III, followed by 20% with Grade IV, and 15% with Grade II.

Table 3: Operative and Postoperative Details

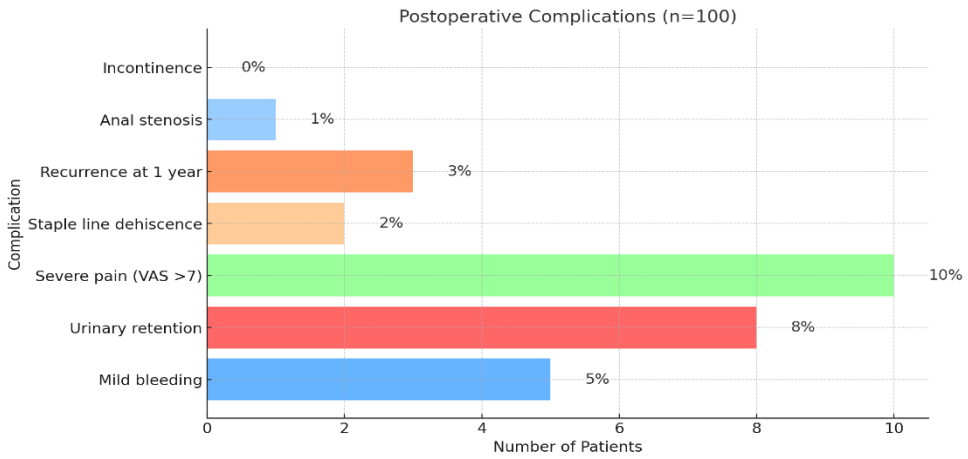
Parameter	Mean ± SD / Number	Range/Percentage
Mean operative time (minutes)	35 ± 8	25–55
Mean hospital stay (days)	2 ± 0.5	1–4
Mean time to return to normal activity (days)	7 ± 2	5–10

Table 3 provides details on the operative and postoperative parameters. The average operative time was 35 ± 8 minutes, with a hospital stay of 2 ± 0.5 days. Patients typically returned to normal activities in 7 ± 2 days.

Table 4: Postoperative Complications

Complication	Number of Patients (n=100)	Percentage (%)
Mild bleeding	5	5%
Urinary retention	8	8%
Severe pain (VAS >7)	10	10%
Staple line dehiscence	2	2%
Recurrence at 1 year	3	3%
Anal stenosis	1	1%
Incontinence	0	0%

Table 4 shows the postoperative complications in 100 patients. Mild bleeding occurred in 5%, urinary retention in 8%, severe pain in 10%, staple line dehiscence in 2%, recurrence at 1 year in 3%, anal stenosis in 1%, and no cases of incontinence were reported.



Figure; 2 Postoperative Complications

Figure 2 depicts postoperative complications in 100 patients: severe pain (10%), urinary retention (8%), mild bleeding (5%), recurrence at 1 year (3%), staple-line dehiscence (2%), anal stenosis (1%), and no incontinence.

Table 5: Pain Scores (Visual Analog Scale - VAS)

Time Post-Surgery	Mean VAS Score ± SD
6 hours	4.5 ± 1.2
24 hours	3.0 ± 1.1
1 week	1.0 ± 0.5

Table 5 shows pain scores measured using the Visual Analog Scale (VAS) at different times post-surgery. The mean VAS score was 4.5 ± 1.2 at 6 hours, 3.0 ± 1.1 at 24 hours, and 1.0 ± 0.5 after one week, indicating a decrease in pain over time.

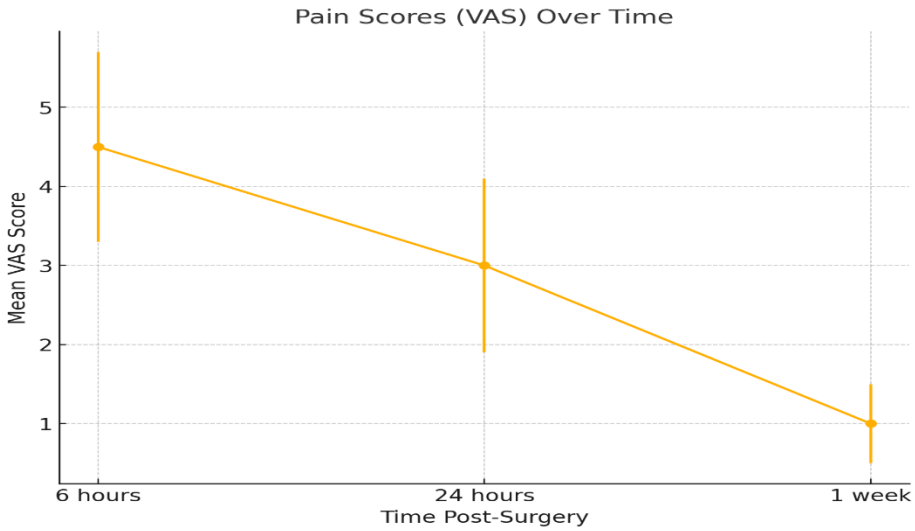


Figure 3 Pain Scores (Visual Analog Scale - VAS)

Figure 3 shows pain steadily decreasing over time, from a mean VAS of 4.5 at 6 h to 3.0 at 24 h and 1.0 at one week post-surgery.

DISCUSSION

The present study evaluated the outcomes of stapled hemorrhoidopexy in 100 patients with Grade II to IV symptomatic hemorrhoids. Our findings support the growing body of evidence that stapled hemorrhoidopexy offers significant short-term advantages over conventional excisional hemorrhoidectomy in terms of reduced postoperative pain, shorter hospital stay, and quicker return to normal activities.

In our cohort, the mean operative time was 35 ± 8 minutes, aligning with previous reports that stapled hemorrhoidopexy typically requires less operative time compared to conventional methods [8,9]. The shortened operative duration can be attributed to the standardized steps of the procedure and the avoidance of extensive dissection and suturing required in traditional hemorrhoidectomy.

Postoperative pain, measured using the Visual Analog Scale (VAS), was notably low. The mean VAS score at 6 hours post-surgery was 4.5 ± 1.2, reducing to 3.0 ± 1.1 at 24 hours, and further declining to 1.0 ± 0.5 at 1 week. This trend is consistent with earlier studies by Mehigan et al. [8] and Rowsell et al. [9], which demonstrated that patients undergoing stapled hemorrhoidopexy experienced significantly less postoperative pain than those undergoing conventional excisional hemorrhoidectomy. The reduced pain is likely since the staple line is placed above the highly sensitive anoderm, thus minimizing trauma to pain-sensitive somatic nerve fibers [10].

The mean hospital stay was 2 ± 0.5 days, and most patients returned to their normal activities within 7 ± 2 days. These outcomes are comparable to findings by Ho et al. [10], further reinforcing that stapled hemorrhoidopexy allows faster recovery compared to traditional surgery, which often involves prolonged convalescence due to higher postoperative pain and wound care requirements [4,5].

Regarding postoperative complications, mild bleeding occurred in 5% of patients, urinary retention in 8%, and severe pain (VAS >7) in 10% of patients. Staple line dehiscence occurred in 2%, while recurrence of hemorrhoidal symptoms was observed in 3% at 1 year. Anal stenosis was rare, occurring in only 1% of cases, and no cases of incontinence were reported. These results are comparable to those reported in other prospective studies [11,12].

It is noteworthy that although stapled hemorrhoidopexy shows favorable early postoperative outcomes, some concerns remain regarding long-term efficacy. In our study, the recurrence rate was relatively low (3%) at one year, consistent with rates reported by Burch et al. [12]. However, a meta-analysis by Shao et al. [13] suggested that recurrence rates could be higher after stapled hemorrhoidopexy compared to conventional hemorrhoidectomy in long-term follow-up beyond one year. This emphasizes the need for longer-term follow-up studies to fully assess the durability of stapled hemorrhoidopexy outcomes.

Complications such as staple line dehiscence and anal stenosis, although uncommon, underscore the necessity for meticulous surgical technique. Early recognition and management of these complications are crucial to prevent serious sequelae like rectal perforation or pelvic sepsis, as described in previous literature [11].

Overall, our study reaffirms that stapled hemorrhoidopexy is a safe and effective alternative for the surgical management of Grade II to IV hemorrhoids, especially in terms of short-term outcomes. However, patient selection remains critical, and patients must be counseled about the potential risk of recurrence over time. Further multicenter randomized controlled trials with longer follow-up periods are warranted to better define the role of stapled hemorrhoidopexy in hemorrhoidal disease management.

CONCLUSION

Stapled hemorrhoidopexy is a safe, effective, and patient-friendly surgical option for the management of Grade II to IV hemorrhoids. It offers significant advantages over conventional hemorrhoidectomy, including shorter operative time, less postoperative pain, reduced hospital stay, and faster return to normal activities. Although a small risk of complications such as bleeding, urinary retention, and recurrence exists, the overall patient satisfaction is high. With proper case selection and surgical technique, stapled hemorrhoidopexy can be considered a preferred alternative for symptomatic hemorrhoids.

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