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# Prospective Observational Comparative Study on the Outcomes of Open Haemorrhoidectomy versus Stapled Haemorrhoidopexy in Grade III and Grade IV Haemorrhoids

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**ABSTRACT** *AIM:* to compare the outcomes of open haemorrhoidectomy and stapled hemorrhoidopexy in patients with Grade III and Grade IV haemorrhoids.

*PATIENTS AND METHODS:* this prospective observational comparative study was conducted at Kasturba medical college, Manipal, from March 2023 to March 2025. 26 patients undergoing open haemorrhoidectomy and 26 patients undergoing stapled hemorrhoidopexy were compared. Parameters assessed included operative time, postoperative pain (VAS on POD 1 and 3), analgesic requirement, bowel activity, urinary retention, postoperative bleeding, duration of hospital stay, return to work, and follow-up outcomes.

*RESULTS:* grade III haemorrhoids accounted for 88.5% of cases. Operative time was similar in both groups (median: 60 minutes). Postoperative pain scores and analgesic needs showed no significant difference. Urinary retention was significantly higher in the stapled group (34.6%) compared to the open group (11.5%). Other parameters, including return to work and complication rates, were comparable.

*CONCLUSION:* both open haemorrhoidectomy and stapled hemorrhoidopexy are effective in treating advanced haemorrhoids. However, stapled hemorrhoidopexy demonstrated a higher incidence of urinary retention. Surgical approach can be individualized based on patient profile and resource availability.

**KEYWORDS:** Haemorrhoids; Open Haemorrhoidectomy; Stapled Hemorrhoidopexy

**CONFLICT OF INTEREST:** the authors declare no conflict of interest

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## INTRODUCTION

Hemorrhoidal disease is a prevalent anorectal condition worldwide. It arises from the symptomatic enlargement and displacement of the normal vascular cushions of the anal canal. In advanced stages specifically Grade III and IV patients frequently experience pain, prolapse, bleeding, often necessitating surgical intervention [1]. Traditionally, open haemorrhoidectomy, particularly the Milligan-Morgan technique, has been the cornerstone surgical treatment. It is favoured for its definitive nature and low recurrence, though it carries drawbacks such as significant postoperative pain, delayed recovery, and complications like urinary retention [2,3]. To address these limitations, stapled Haemorrhoidopexy was developed. This method repositions the prolapsing mucosa via a circular stapler, excising a circumferential ring of rectal mucosa above the dentate line. Since

this region lacks sensory innervation, patients tend to report less postoperative discomfort [4,5]. The stapled technique has since gained traction for its shorter operative time, less pain, and earlier return to normal activities. Comparative analyses have shown varied outcomes, especially when assessing patient satisfaction, complication rates, and functional recovery [6,7]. This study was designed to prospectively compare open haemorrhoidectomy and stapled hemorrhoidopexy in the management of Grade III and IV haemorrhoids, focusing on intraoperative parameters, recovery, and early complications to inform evidence-based practice.

## PATIENTS AND METHODS

**Study Design and Setting:** This prospective observational comparative study was conducted in

**Table 1.** Comparison in outcomes between the two groups

Parameter	Open Hemorrhoidectomy (n = 26)	Stapled Hemorrhoidopexy (n = 26)	p-value
Mean Age (years)	49.13 ± 14.57	49.13 ± 14.57	–
Male Gender	17 (65.4%)	21 (80.8%)	–
Grade III Hemorrhoids	21 (80.8%)	24 (92.3%)	–
Grade IV Hemorrhoids	5 (19.2%)	2 (7.7%)	–
Operative Time (minutes)	Median: 60 (45–75)	Median: 60 (55–70)	0.830
VAS Score POD1	Median: 7	Median: 7.5	0.237
VAS Score POD3	Median: 5	Median: 5	0.638
Postoperative Analgesic Days	Median: 3	Median: 3	0.354
First Bowel Activity by POD1	5 (19.2%)	11 (42.3%)	0.195
First Bowel Activity by POD2	17 (65.4%)	12 (46.2%)	0.248
First Bowel Activity by POD3	4 (15.4%)	3 (11.5%)	0.688
Median Hospital Stay (days)	4	3	0.201
Return to Work (median days)	14 (7–30)	14 (10–14.25)	0.698
Continuous Postoperative Bleeding	0 (0%)	1 (3.8%)	0.999
Urinary Retention	3 (11.5%)	9 (34.6%)	0.048*
Anal Incontinence	0 (0%)	0 (0%)	–
Follow-up Pain	1 (3.8%)	1 (3.8%)	–
Follow-up Bleeding	2 (7.7%)	0 (0%)	0.490
Recurrence/Prolapse	0 (0%)	0 (0%)	–

Note: \*Statistically significant difference

the Department of General Surgery at Kasturba Medical College, Manipal, from March 2023 to March 2025.

**Sample Size and Selection:** Fifty-two patients with symptomatic Grade III or IV haemorrhoids were selected. Patients were divided into two groups: open haemorrhoidectomy (n = 26) and stapled hemorrhoidopexy (n = 26). Ethics committee clearance and informed consent were obtained.

**Inclusion Criteria:**

- Adults (> 18 years) with Grade III or IV haemorrhoids.

**Exclusion Criteria:**

- Grade I or II haemorrhoid, Co-existing fistula in ano or colorectal malignancy, Bleeding disorders, Age > 80 years.

**Data Collection and Variables:** Clinical details were recorded preoperatively. Postoperative data included: Operative time, pain scores (VAS) on POD1 and POD3, duration of postoperative analgesia, first bowel activity, complications: bleeding, urinary retention, incontinence, duration of hospital stay, time to return to work, follow-up at 3 months (pain, bleeding, prolapse).

**Statistical Analysis:** Data were analyzed using SPSS v16. Continuous variables were expressed as medians and interquartile ranges.  $\chi^2$  test was used for categorical variables. A p-value < 0.05 was considered statistically significant.

## RESULTS

**Demographics:** The mean age was 49.13 ± 14.57 years. Males comprised 73.1% of the study population. Grade

III haemorrhoids accounted for 88.5% of cases, while 11.5% had Grade IV disease.

**Operative Time:** Both procedures had a comparable median operative time of 60 minutes (p = 0.830).

**Pain Scores and Analgesic Requirement:** Median VAS scores on POD1 were 7 (open) and 7.5 (stapler), and on POD3 were 5 in both groups (p > 0.05). Analgesia was required for a median of 3 days in both groups.

**Bowel Activity:** Majority resumed bowel activity by POD2. Differences were not statistically significant.

**Hospital Stay and Return to Work:** Median hospital stay was 4 days (open) and 3 days (stapler) (p = 0.201). Time to resume work was 14 days in both groups (p = 0.698).

**Complications:**

- Urinary retention occurred more frequently in the stapled group (34.6%) than the open group (11.5%) (p = 0.048).
- No anal incontinence or recurrence was observed in either group.

**Follow-Up:** On 3-month follow-up, 1 patient from each group reported persistent pain. Two open group patients had minor bleeding. No cases of recurrent prolapse were observed.

## DISCUSSION

Our prospective study reinforces the utility of both open haemorrhoidectomy and stapled hemorrhoidopexy in managing advanced hemorrhoidal disease. Each technique demonstrated comparable effectiveness, yet

differed in recovery profile and complication patterns, echoing findings from recent literature [3,6].

Although both groups showed similar operative durations, the stapled group experienced slightly lower pain scores on postoperative day one. While not statistically significant, this trend is well supported in previous research showing improved early comfort with the stapled approach [4,5]. This benefit likely results from the avoidance of sensitive anodermal tissue during resection.

Urinary retention, however, was significantly higher in the stapled group — a finding consistent with reports by Surati et al. and others [6,8]. It has been hypothesized that this may result from circumferential tissue edema and autonomic disruption due to stapler use.

Return to work and hospital stay durations were similar across both groups. Although stapled hemorrhoidopexy is often cited for earlier recovery, our results suggest that institutional practices and standardized postoperative care may mediate such advantages [7].

Importantly, we observed no significant difference in the incidence of bleeding, recurrence, or incontinence, aligning with data from recent multi-center reviews [9]. Long-term recurrence remains a critical concern, especially with stapled procedures. Studies suggest that tissue repositioning, rather than removal, may predispose to relapse in the absence of proper patient selection [10].

While stapled hemorrhoidopexy offers potential advantages in pain reduction and cosmetic appeal, it incurs higher costs and may be unsuitable in settings with limited resources. Open haemorrhoidectomy, though more invasive, remains a durable and accessible solution.

The choice between techniques should thus be personalized, balancing patient expectations, clinical context, and economic feasibility.

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## CONCLUSION

Both open haemorrhoidectomy and stapled hemorrhoidopexy demonstrate comparable effectiveness in treating advanced haemorrhoids. While the stapled approach offers minor advantages in recovery profile.

## DECLARATIONS

**Ethics Approval and Consent to Participate:** The study was approved by the Institutional Ethics Committee (IEC No.: 124/2023). Written informed consent was obtained from all participants.

**Consent for Publication:** Not applicable.

**Availability of Data and Materials:** Available upon reasonable request from the corresponding author.

**Competing Interests:** The authors declare no conflict of interest.

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