

Higher patient satisfaction levels after Stapled Hemorrhoidopexy compared to Conventional Hemorrhoidectomy- a single-center experience

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Introduction: Studies have suggested that stapled hemorrhoidopexy results in less postoperative pain and shorter recovery compared with conventional surgery, but a higher rate of recurrence. The present study aimed to assess the advantage and feasibility of stapled hemorrhoidopexy versus conventional hemorrhoidectomy in grade 3 and grade 4 hemorrhoids and to compare the short term outcomes of stapled hemorrhoidopexy with conventional hemorrhoidectomy in a teaching hospital in Central India. **Methods:** After fulfilling the selection criteria, 100 patients were randomly allocated to the stapled (n = 50) or conventional group (n = 50). All patients were operated under spinal anesthesia. The 2 techniques were evaluated with respect to the operative time, pain scores, complications, hospital stay, return to work, and level of satisfaction. The follow-up period was 6 months. **Results:** The mean age of patients was 46.02 years in the stapled group and 48.64 years in the conventional group. Hemorrhoids were more common in men. **Conclusion:** Stapled hemorrhoidopexy is a safe and effective day-care procedure for the treatment of grade 3 and grade 4 hemorrhoids. It ensures lesser postoperative pain, early discharge, less time off work, and complications similar to the conventional technique, and in the end a more satisfied patient with no perianal wound.

Keywords: Stapled hemorrhoidopexy, day-care procedure, hemorrhoids, postoperative pain, hemorrhoidectomy

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Background

It is said that 40 percent of the population has symptoms due to hemorrhoids at some time of their lives, a price possibly man has had to pay following the evolution of his erect posture. Hemorrhoids are one of the commonest benign anorectal problems worldwide. Hemorrhoidal disease, the hypertrophy of normal vascular cushions located inside the anus that normally seal the opening and prevent leakage of gas or stools, becomes worrisome when these cushions become engorged or the tissue prolapses into the anal canal due to engorgement of blood vessels and laxity of the supporting connective tissue. While less severe grades may be managed conservatively, grades 3 and 4 hemorrhoids are usually managed by hemorrhoidectomy which is associated with postoperative pain, long hospital stay, and other complications. Stapled hemorrhoidopexy is a newer alternative for the treatment of hemorrhoids with early recovery and less of the above complications.

Hemorrhoidectomy is performed in the following settings:

- Symptomatic grade 3, grade 4, or mixed internal and external hemorrhoids.
- Where there are additional anorectal conditions that require surgery.
- Strangulated internal hemorrhoids.
- Some thrombosed external hemorrhoids
- Where patients cannot tolerate or fail a conservative approach.

In a conventional hemorrhoidectomy, hemorrhoidal tissue is ligated with sutures and excised, and the incision may be left open or closed. Surgeons may opt for open hemorrhoidectomy when the location or amount of disease makes wound closure difficult or the likelihood of postoperative infection is high. Stapled hemorrhoidopexy was introduced in 1993 as an alternative to conventional techniques for operative management of hemorrhoidal disease. This method was described and refined by Longo in 1998 [1].

The introduction of the stapled hemorrhoidopexy was received with much enthusiasm because it could offer patients a significantly improved postoperative comfort level. This is attributable to the fact that the mucosal incision and staple lines are positioned well above the dentate line and the highly sensitive perianal skin is left intact. Several

Studies have suggested that stapled hemorrhoidopexy may be safely performed as a daycare procedure. Patients undergoing stapled hemorrhoidopexy had reduced, post-operative pain, hospital stay, and analgesic requirements, and returned earlier to work [2-5].

Stapled hemorrhoidopexy is mostly used in patients with grade 3 and 4 hemorrhoids and those who fail prior conservative treatments. During stapled hemorrhoidopexy, a circular stapling device is used to excise a circumferential ring of mucosa and sub-mucosa above the dentate line, thereby lifting hemorrhoids back to their normal position within the anal canal.

Stapling also disrupts hemorrhoidal blood supply. Studies have suggested that stapled hemorrhoidopexy results in less postoperative pain and shorter recovery compared with conventional surgery, but a higher rate of recurrence [3-8]. The present study attempted to compare the two methods in the setting of a teaching hospital in Central India.

Materials and Methods

The present study was a prospective observational study done over a period of 2 years at L. N. Medical College and Research Center, Bhopal, Madhya Pradesh, India.

Inclusion Criteria

01. Patients with grade 3 and grade 4 or mixed internal and external hemorrhoids
02. Patients who give consent for the study

Exclusion Criteria

- . Acute hemorrhoidal episodes with thrombosis
01. Associated anal pathologies like fistula-in-ano and fissure-in-ano
 02. Anal stenosis
 03. Proctitis
 04. Ulcerated grade 4 hemorrhoids

Patients were randomly allocated to the stapled or conventional group and respective procedures performed under spinal anesthesia. After discharge, patients were followed up for 6 months.

Data Collection and Methods Data will be collected on an individual basis by filling proforma which will be recorded and compiled using Microsoft excel datasheet.

Statistical Analysis Patient satisfaction was statistically analyzed using Fisher's Exact Test. For other parameters, students 't' test and Chi-Square tests were applied. The charts and tables were designed from the data obtained from every patient and compiled from the master chart. Data are expressed as Mean ± SD. Statistical analysis was performed using the p-value. A p-value of less than 0.05 was considered significant.

Result

A total of 100 patients were studied, 50 in each group. The mean age of patients was 46.02±12.3 years in the stapled group and 48.64±14.6 years in the open group. Hemorrhoids were more common in men (Table 1).

The mean operative time was shorter in the stapled group 24.28±4.25 minutes versus 45.41±6.36 minutes in the conventional group (P < 0.05). The blood loss and pain scores were significantly less in the stapled group. Mean hospital stay was 1.24 days and 2.76 days (P < 0.01) in the stapled and conventional group, respectively.

The patients in the stapled group returned to work or routine activities earlier i.e. within 8.12 days (mean) as compared with 17.62 days in the conventional group. Only 80.1% of patients were satisfied by the conventional method compared with 97.6% after the stapled technique (p<0.01) (Table 2).

In the follow-up period, there was no recurrence of the disease in either group (Table 3).

Table-1: Patient profile.

		Stapled n [50]	Conventional n [50]
1	Mean age in years (SD)	46.02 (12.3)	48.64 (14.6)
2	Sex		
	Males	42 (84 %)	44 (88%)
	Females	8 (16%)	6 (12%)
3	Grading		
	Grade 3	39 (78%)	38 (76%)
	Grade 4	11 (22%)	12 (24%)
	Associated External Component	5 (10%)	4 (8%)
4	Chief complaint		
	Bleeding	41 (82%)	44 (88%)
	Prolapse	11 (22%)	8 (16%)
	Itching	4 (8%)	2 (4%)
	Constipation	25 (50%)	29 (58%)

Table-2: Comparison of various parameters after surgery.

		Stapled [mean (SD)]	Conventional [mean (SD)]	P-value
1	Blood loss[ml]	58.09 (11.15)	135.95 (28.37)	<0.05
2	Operative time [minutes]	28.28 (4.25)	45.41 (6.36)	<0.05
3	Visual Analog scale			
	12 hours	3.45 (1.8)	4.86 (5.2)	<0.05
	24 hours	3.64 (1.7)	6.36 (1.44)	<0.05
	3 days	1.52 (1.42)	4.5 (2.12)	<0.05
	7 days	0.57 (0.8)	2.31 (1.8)	<0.01
	15 days	0.21 (0.54)	1.05 (1.32)	<0.05
	At first motion	5.7 (1.48)	7.28 (0.98)	<0.05
4	Hospital stay [days]	1.24 (0.65)	2.76 (1.2)	<0.01
5	Return to work [days]	8.12 (2.4)	17.62 (5.67)	<0.05
6	First motion [days]	2.16 (0.82)	2.33 (0.96)	0.33
7	Mean satisfaction score	6.93 (1.35)	6.02 (1.57)	<0.01
8	Percentage of patients satisfied	97.6 %	80.1 %	<0.01

Table-3: Follow-up at 6 months.

		Stapled	Conventional
1	Mucus discharge	1	1
2	Increased frequency of stools	2	Nil
3	Persistent pain	Nil	5
4	Anal tags	4	1
5	Recurrence of symptoms	2	Nil
6	Anal stenosis	Nil	1

Discussion

Ever since Longo popularized the stapled hemorrhoidopexy for the surgical management of hemorrhoids, there have been debates on establishing the superiority of one technique over the other. Known by many names like the procedure for prolapse and hemorrhoidopexy (PPH) and minimally invasive procedure for hemorrhoids (MIPH), stapled hemorrhoidopexy was here to stay. The technique was assessed in several randomized controlled trials which have consistently shown a decrease in postoperative pain, length of surgical procedure, short recovery time, and early return to normal activities [5-9].

However, several studies reported chronic postoperative pain, recurrent prolapse, and anal stenosis to be significant in this procedure as compared to conventional surgery [6,9]. Contrasting findings in other studies were a stimulus for those caregivers who had taken up Longo's procedure as a

Standard of care for their patients [7]. Hence, it can be conducted that this study to compare the two techniques with 6 months follow-up in a teaching hospital in Central India. Shao W J et al did a systematic review and meta-analysis of randomized controlled trials comparing stapled haemorrhoidopexy with conventional haemorrhoidectomy. They concluded that stapled haemorrhoidopexy offers some short-term benefits over conventional operation but the total complication rates are similar for both techniques. Stapled haemorrhoidopexy was found associated with a higher rate of recurrent disease [6].

Ommer A et al worked on long-term results after stapled hemorrhoidopexy in a prospective study with a 6-year follow-up. They made a standardized patient questionnaire regarding satisfaction, resolution of symptoms, and performance of further interventions. Their long-term results showed that this strategy for stapled hemorrhoidopexy can achieve a high level of patient satisfaction and symptom control, with a low rate of reoperation for recurrent hemorrhoidal symptoms [7].

Equivocal results were given by Kim JS et al when they evaluated the short- and long-term outcome after stapled hemorrhoidopexy compared with the Milligan–Morgan procedure in a homogeneous patient population with circumferential third-degree hemorrhoids. Endpoints were pain, recurrence, bleeding, itching/burning, urinary retention, incontinence symptoms, and prolonged rate of wound healing. The results showed a similar rate of recurrence in the long term and suggested increased patient comfort in the early postoperative course after stapled hemorrhoidopexy. They concluded that in patients with circumferential third-degree hemorrhoids, stapled hemorrhoidopexy was as effective as the Milligan–Morgan procedure [8].

In the present study, it was found that the mean operative time was significantly shorter in the stapled group, blood loss and pain scores were significantly less and the patients returned to work earlier. Only 80.1% of patients were satisfied by the conventional method compared with 97.6% after the stapled technique. Similar results were found by researchers in various randomized controlled trials [10-12].

It was also found that at 6 months follow-up, there was no recurrence in either group. This could be explained by the fact that the surgeries were performed by a senior surgeon with more than 20

Years of experience single-handedly. Nunoo-Mensah JW et al had observed that even though Longo's technique was relatively straightforward, only strict adherence to its principles could avoid serious complications and preserve the previously described benefits of this method. Recurring questions during teaching courses as well as several pitfalls that might result in suboptimal outcomes prompted the authors to highlight some important details and modifications of the surgical technique [13].

An important issue not covered in the present study was the financial burden of the procedure. Ebert KH et al, in a 2-year study, suggested that because of the comparatively high cost of the procedure, the indication and decision for stapled hemorrhoidopexy should be carefully made [14].

Conclusion

Stapled hemorrhoidectomy is a safe and effective day-care procedure for the treatment of grade 3 and grade 4 hemorrhoids.

What does the study add to the existing knowledge

It ensures lesser postoperative pain, early discharge, less time off work, complications similar to the open technique, and in the end a more satisfied patient with no perianal wound.

Author's contribution

Dr. Mahesh Ram: Concept and data collection

Dr. Shehtaj Khan: Data analysis and discussion.

Dr. Amit Tiwari: Data collection and analysis

Dr. Tarun Sainia: Data analysis and discussion.

Dr. Krishnanand: Guidance and discussion.

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