

Original Research Article

Outcome of stapled haemorrhoidopexy versus open haemorrhoidectomy in grade third and fourth haemorrhoids

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Received: 01 March 2024

Revised: 01 April 2024

Accepted: 01 April 2024

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ABSTRACT

Background: Haemorrhoids are one of the most common benign anorectal problems worldwide.

Methods: This study was conducted in the department of General Surgery, Sher e Kashmir Institute of Medical Sciences and SKIMS Medical College from April 2021 to October 2022. The study included 80 patients which were randomly divided into two groups. Group A was offered Stapled Haemorrhoidopexy and Group B underwent open hemorrhoidectomy. All relevant data was collected and final inferences were drawn

Results: In our study there were 80 patients with mean age of 45 years with male preponderance. Majority of patients were having duration of symptoms for 6-12 or >12 months. The most common presenting complaint was prolapsed mass, followed by bleeding per rectum. 50 patients had grade 3, 30 patients had grade 4 haemorrhoids. Mean operative blood loss, operative time, wound healing time and mean duration of hospital stay was less in MIPH group. Post procedure complications were present in 12 patients in group A and 32 patients in group B. Most common complication in group B was urinary retention. There was no recurrence in both groups up to 6 months. Post-operative pain was significantly less in MIPH group.

Conclusions: Stapled Haemorrhoidopexy has less, post-operative pain, operative time, hospital stay, complications and less wound healing time. However, there is no significant difference in long term complications when compared with Miligan-Morgan technique. Cost of Stapler gun used for MIPH may be a limiting factor.

Keywords: Haemorrhoid, MIPH, Anorectal, Stapled

INTRODUCTION

Haemorrhoids are one of the most common benign anorectal problems worldwide. It is generally said that hemorrhoids are the price we humans pay for our erect or upright posture.¹ Early grade haemorrhoids commonly present as bleeding per rectum, while as grade 3 and grade 4 present as mass protruding per rectum. Due to direct arteriovenous communication in the hemorrhoidal mass, the blood is typically bright red.² Etiology of Hemorrhoids mostly related to chronic constipation, and

excessive straining at defecation. It can also occur secondarily due to carcinoma of rectum, pregnancy, uterine tumors, difficulty in micturition due to stricture or enlarged prostate and portal hypertension.^{3,4} Haemorrhoids are broadly classified into internal, external and mixed types. Internal haemorrhoids are situated above the dentate line, covered with mucous membrane and external haemorrhoids lie below the dentate line, covered by skin. Internal haemorrhoids based on their appearance and degree of prolapse are graded into four types (Goligher's classification): grade I:

Bleeding present but no prolapse; grade II: hemorrhoids prolapse outside the anal canal but reduce spontaneously; grade III: hemorrhoids prolapse outside the anal canal and require manual reduction; and grade IV: Hemorrhoids prolapse all the time and are irreducible, it also includes acutely thrombosed hemorrhoids.⁵ The third type of classification determines hemorrhoids by their anatomical position, where 3, 7 and 11 o'clock are considered to be primary and the areas between them to be as secondary.^{1,3,4} Grade I and early grade II hemorrhoids, can be managed conservatively with lifestyle and dietary modifications and medications with dietary precautions and laxatives whereas grades III and IV require surgical intervention.⁶ Some grade II and III hemorrhoids can also be treated by injection sclerotherapy, banding or Infra-red/laser coagulation.^{4,7} There are various surgical methods available such as Ferguson's closed hemorrhoidectomy, Open Milligan-Morgan hemorrhoidectomy and Longo's stapled hemorrhoidopexy or MIPH.⁸⁻¹⁰ The important goal after hemorrhoidectomy is reduction of pain, recurrence and duration of hospital stay. Hemorrhoidectomy by conventional technique causes considerable post-operative pain, prolong bed rest, post-operative complications and delay in return to work.¹¹⁻¹³ MIPH (minimal invasive procedure for Haemorrhoids) is a new concept introduced by Longo in 1998 which was devised to overcome these problems. Stapled hemorrhoidopexy or MIPH is an alternative for prolapsing grade III and IV hemorrhoids and has resulted in decrease post-operative pain, complications, and early return to work.¹⁰⁻¹² The aim of our study was to compare stapled hemorrhoidopexy and open hemorrhoidectomy in the management of third and fourth-degree hemorrhoids with their outcomes and complications during the postoperative period and follow-up.

METHODS

This study was conducted in the department of General and minimal Invasive Surgery, Sher-e-Kashmir Institute of Medical Sciences, Soura and department of general surgery, SKIMS Medical College Bemina, Srinagar from April 2021 to October 2022. It was a prospective comparative study including 80 patients of grade III and IV hemorrhoids which were randomly divided into two groups of 40 patients each. Group A was offered stapled hemorrhoidopexy/miph and group B underwent conventional Milligan Morgan open hemorrhoidectomy. Advantages and disadvantages of both procedures was explained to both the patient group and patients were randomly allocated to one of the two surgeries after taking an informed consent.

Inclusion criteria

Inclusion criteria for current study were; 18 to 65 years' age group, grade III Haemorrhoids, grade iv hemorrhoids and patients fit for spinal anaesthesia.

Exclusion criteria

Exclusion criteria for current study were; patient having grade I hemorrhoids, any associated diseases like fissure or fistula, patients with bleeding diathesis, pregnant ladies, suspected malignancy and previous ano-rectal surgery.

The patients were subjected to detailed history taking and the presenting symptoms were noted. Details of previous treatment, family history, personal history, general and systemic examination was done. Per digital rectal examination and proctoscopy was done according to the protocol. Colonoscopy was done in few selected cases only when indicated. Patients underwent necessary pre-operative investigations followed by formal pre-anesthetic evaluation. Pre-operative preparations like nothing by mouth for 8 hours before surgery, proctoclysis enema and prophylactic antibiotic coverage was done. All patients were operated in lithotomy position under spinal anesthesia in a tertiary care hospital. Intra operative findings, hemodynamics and complications were noted in all patients. All patients were evaluated for various intra-operative factors and post-operative outcome and data was analyzed using SPSS Version 20.0 (SPSS Inc. Chicago, Illinois, USA). Chi-square test and student's t test were used for comparison of data between two groups.

RESULTS

In our study there were 80 patients with grade III and IV Hemorrhoids with mean age of 45 years. The patients were divided into two groups group A including patients who underwent Stapled hemorrhoidopexy/MIPH (Minimally invasive procedure for hemorrhoids) and group B who underwent open hemorrhoidectomy.

Table 1: Duration of symptoms.

Duration (months)	N
<2	5
2-6	20
6-12	25
>12	30

Table 2: Associated comorbidities of patients in both groups.

Comorbidities	N
Anaemia	38
Type 2 Diabetes Miletus	10
Hypertension	20
Benign prostatic hyperplasia	5
Nil	7

There were 28 males and 12 females in group A and, 24 males and 16 females in group B (Figure 1). 5 patients were having duration of symptoms for <2 months, 20 patients for 2-6 months, 25 patients for 6-12 months and 30 patients for >12 months (Table 1).

Table 3: Mean and range of different parameters compared between two groups.

Parameters		Group A	Group B	P value
Blood loss (ml)	Mean	60.2	80	<0.001
	Range	50-80	70-100	
Operative time (min)	Mean	35	50	<0.001
	Range	25-45	30-60	
Duration of hospital stay (days)	Mean	1.5	2.5	<0.001
	Range	1-4	1-5	
Wound healing time (days)	Mean	5.42	15.42	<0.001
	Range	4-6	13-16	

The most common presenting complaint was prolapsed mass, present in 62 patients followed by bleeding per rectum in 56 patients and painful defecation in 20 and peri anal itching in 8 patients (Figure 2).

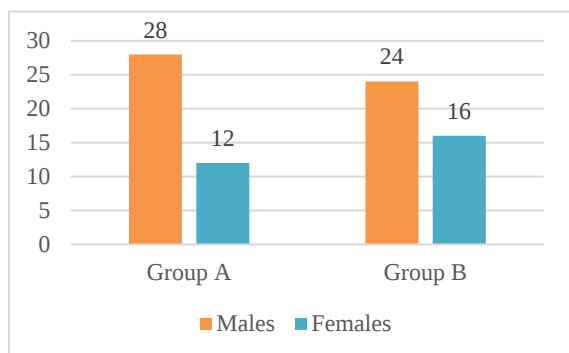
Table 4: Post procedure complications.

Complications	Group A	Group B
Bleeding	6	14
Urinary retention	4	12
Anal discharge	2	4
Incontinence	-	2

Table 5: Comparison of post operative pain in two groups.

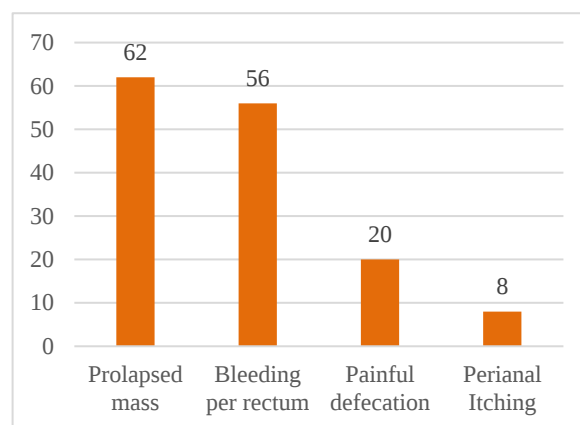
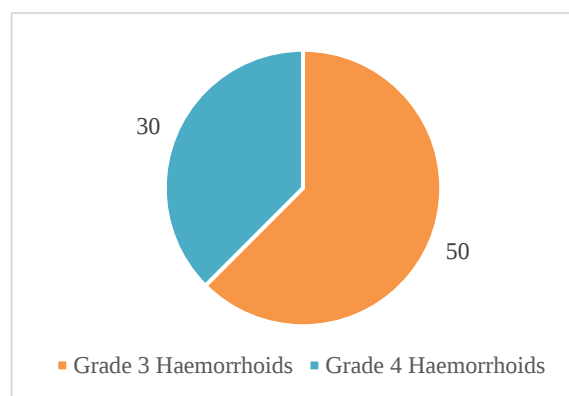
VAS (0-10)	Group A	Group B	P value
Day 0	3.12±0.56	6.27±0.41	<0.001
Day 1	2.20±0.52	5.17±0.42	<0.001
Day 7	1.00±0.0	3.20±0.20	<0.001
Day 14	0.52±1.1	2.17± 0.12	<0.001

Anaemia was present in 38 patients, type 2 diabetes mellitus in 10, hypertension in 20 and benign prostatic hyperplasia (BPH) in 5 patients (Table 2). Out of 80 patients 50 patients had grade 3 haemorrhoids, 30 patients had grade 4 haemorrhoids (Figure 3).

**Figure 1: Gender distribution of two groups.**

Mean operative blood loss in group A was 60.2 with range of 50-80 ml and mean operative blood loss in group B was 80 ml with range of 70-100 ml. Mean operative time in group A was 35 min with range of 25-45 minutes

and mean operative time in group B was 50 min with range of 30-60 minutes.

**Figure 2: Symptomatology of patients.****Figure 3: Grade of haemorrhoids.**

Mean duration of hospital stay for group A was 1.5 days with range of 1-4 days and for group B was 2.5 days with range of 1-5 days (Table 3). Post procedure complications were present in 12 patients in group A and 32 patients in group B. Post-operative bleeding was present in 6 patients, urinary retention in 4 patients and anal discharge in 2 patients in group A. Most common complication in group B was urinary retention (12 patients) followed by bleeding, incontinence and anal discharge in 14, 2 and 4 patients respectively (Table 4). Mean wound healing time for MIPH cases was 5.42 with range of 4-6 days as compared to open

Haemorrhoidectomy cases which was 15.42 with a range of 13-16 days. Patients were followed up to 6 months following surgery and no recurrence was seen in both the groups. Post-operative pain was significantly less in MIPH group on day 0, day 1, day 7 and day 14 as per VAS scoring system and requirement of additional analgesia was significantly less as compared with the cases of open haemorrhoidectomy (Table 5).

DISCUSSION

Haemorrhoid is the commonest anorectal disorder worldwide. Grade I and early grade II can be managed conservatively but grade III, and IV require surgical intervention. Many surgical techniques are available but Miligan-Morgan open Hemorrhoidectomy is still the most commonly practiced. MIPH/Stapled Haemorrhoidopexy first described by Longo in 1993 does not involve any surgery below dentate line, so it is painless unlike open haemorrhoidectomy. It is quite rapid, technically easy and can be easily performed without any extra equipment. In our study there were 80 patients with grade III and IV Haemorrhoids with mean age of patients was 45 years. There were 28 males and 12 females in group A and, 24 males and 16 females in group B. The results were similar to study done by HetzEr et al.¹⁴

Majority of patients were having duration of symptoms for 6-12 or >12 months. The most common presenting complaint was prolapsed mass followed by bleeding per rectum. Anaemia was present in 38 patients, type 2 diabetes mellitus in 10, hypertension in 20 and benign prostatic hyperplasia in 5 patients. Out of 80 patients 50 patients had grade 3 haemorrhoids, 30 patients had grade 4. The results were comparable with study done by Hetzer et al.¹⁴ Mean operative blood loss, operative time and wound healing time was less in MIPH group. The shorter time for stapled surgery was also obtained by study done by Ortiz et al, Stolfi et al and Ng et al.¹⁵⁻¹⁷ Mean duration of hospital stay for group A was 1.5 days with range of 1-4 days and for group B was 2.5 days with range of 1- 5 days. Hospital stay was shorter in stapled group in the similar studies done by Shalabay et al and Rowsell et al.^{18,19} Post procedure complications were present in 12 patients in group A and 32 patients in group B. Common complication in group B was urinary retention (12 patients) which was comparable with study done by Ganio et al.²⁰

Patients were followed up to 6 months following surgery and no recurrence was seen in both the groups. Tjandra et al and Chan et al had shown similar results, however few studies had also shown high recurrence rates as a long-term complication of MIPH.²¹⁻²³ Post-operative pain was significantly less in MIPH group on day 0, day 1, day 7 and day 14 as per VAS scoring system and use of analgesia was significantly reduced. Tjandra et al also reported less pain after Stapled haemorrhoidopexy.

Level of satisfaction in group A was 95.20% as compared to 55.32% in group B. Mehigan et al and Desoky et al reported that 85% patients were satisfied with stapled procedure which is quite comparable to our study.^{24,25}

Limitations

Since in our study patients were followed post operatively only for 6 months for recurrence. However long-term follow-up of patients is needed to know the actual recurrence in both the procedures.

CONCLUSION

Stapled Haemorrhoidopexy is a minimally invasive technique for grade III and IV Haemorrhoids having reduced pain, hospital stay and early post-operative complications. Wound healing and operative time are less and there is no significant difference in long term complications when compared with Miligan-Morgan technique. Stapler gun used for MIPH is costly which may be a limiting factor.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Gani M, Illahi MF, Wani RA, Chowdri NA. Outcome of stapled haemorrhoidopexy vs. open haemorrhoidectomy in grade third and fourth haemorrhoids. *Int Surg J* 2024;11:727-31.