

Original Research Article

Comparison between stapler hemorrhoidectomy and open hemorrhoidectomy in the management of grade III and IV hemorrhoids: a prospective randomized study

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ABSTRACT

Background: Haemorrhoids are one of the most common anorectal disorders. Haemorrhoids or piles are dilated veins of the anal canal and are more common in obesity, constipation and pregnancy. Classically they occur in the 3, 7 and 11 o'clock position with the patient in lithotomy position. Symptoms of haemorrhoids are per rectal bleeding and prolapse. Bleeding is bright red in colour and which is painless. The aim of the study was to compare the early results in 60 patients randomly allocated to undergo either stapled or open hemorrhoidectomy.

Methods: Out of 60 patients, 30 (50.0%) patients underwent hemorrhoidectomy by Open Milligan-Morgan's method were classified as Group A while rest 30 (50.0%) patients underwent hemorrhoidectomy by Stapler method after anal stretching, these patients were classified as Group B.

Results: Pain score of majority of patients of Group A was ≥ 7 (76.7%), only 6.7% had pain score < 3 and rest 16.7% had pain score 3 to 6. On comparing the difference of pain in passage of first stool among patients of Group A and Group B statistically was found to be highly significant. Pain in follow up at 3, 7 and 15th day was also significantly higher in group A in comparison to group B.

Conclusions: Of the 60 patients in the current study, 32 are still in the follow up with the maximum follow up period of 11 months. There was no case of recurrence of haemorrhoids in this study. The factor of cost was not evaluated in the study since the hospital stay as well as stapling instrument was totally free in U.P, UMS, Saifai.

Keywords: Ferguson, Hemorrhoids, Milligan Morgan, Stapler

INTRODUCTION

Haemorrhoids are one of the commonest afflictions of mankind from times immemorial. It is said that 40 percent of population have symptoms due to haemorrhoids at some time of their lives, a price possibly man has had to pay following the evolution of his erect posture. Terrel, in his words expresses it as "Man is a victim of a capricious creator, there is no doubt that man was intended to walk on all limbs and having perhaps frustrated his creator's plan by walking on two has created several problems.

Haemorrhoids is one of them. The assumption of an erect posture was a prodigious accomplishment and man pays for his arrogance by the pain and humility that go with Haemorrhoids." Morgagni (1749) attributed the upright posture of man as the Causative factor of haemorrhoids. By common consent the terms 'haemorrhoids' and 'piles' are used quite interchangeably, but etymologically the words have entirely different meanings the term "haemorrhoid" is derived from the Greek adjective "haimorrhoides", Meaning bleeding (haima=blood, rhoo=

flowing), and emphasizes the most prominent symptom in the majority of cases.

The treatment of haemorrhoids dates back to antiquity for the two chief symptoms of bleeding and protrusion. Haemorrhoids or piles are dilated veins of the anal canal and are more common in obesity, constipation and pregnancy. Classically they occur in the 3, 7 and 11 o'clock position with the patient in lithotomy position. Symptoms of haemorrhoids are per rectal bleeding and prolapse. Bleeding is bright red in colour and which is painless. Haemorrhoids can be classified into 4 groups according to degree of haemorrhoids.

Treatment of haemorrhoids depends on degree of haemorrhoids. Injection sclerotherapy and banding for first degree and second degree haemorrhoids. Haemorrhoidectomy is indicated in third and fourth degree haemorrhoids.

The Milligan-Morgan open haemorrhoidectomy is the most widely practiced surgical technique used for the management of third and fourth degree haemorrhoids and is considered the current "gold standard" though some early and late post-operative complications like anal pain, acute retention of urine, anal stenosis and incontinence is evident.¹⁻³ Circular stapled haemorrhoidopexy (SH) was first described by Longo in 1998 as an alternative to conventional excisional haemorrhoidectomy (CH).⁴ Some study of randomized controlled trials comparing stapled haemorrhoidopexy with traditional excisional haemorrhoidectomy has shown it to be less painful and that it is associated with quicker recovery.⁵⁻⁸ The reports also suggest a better patient acceptance and a higher compliance with day-case procedures potentially making it more economical. In some other randomized controlled trial study has reported that patients undergoing circular stapled haemorrhoidopexy were significantly more likely to have recurrent haemorrhoids in long term follow up as well as significantly higher proportion of patients with stapled haemorrhoidectomy complained of symptoms of prolapse than those receiving conventional haemorrhoidectomy (CH).⁹⁻¹²

None of these studies has gained universal acceptance. This study aims to compare both stapled and open hemorrhoidectomy as a management approach in terms of outcome, complications and cost effectiveness.

METHODS

A total of 60 patients fulfilling the inclusion criteria of study and giving their consent were randomly divided into two groups. Out of 60 patients, 30 (50.0%) patients underwent hemorrhoidectomy by Open Milligan-Morgan's method were classified as Group A while rest 30 (50.0%) patients underwent hemorrhoidectomy by Stapler method after anal stretching, these patients were classified as Group B.

Inclusion criteria

- Patients with grade III and IV hemorrhoids
- Patients who were willing to give consent

Exclusion criteria:

- Recurrent hemorrhoids
- Thrombosed grade IV hemorrhoids

Patients with associated perianal conditions like abscess, anal fissure, rectal ulcer and rectal prolapsed. All patients were operated in lithotomy position under saddle anaesthesia. Pain on Visual Analogue Scale during passage of first stool and follow up at 3rd day, 7th day and 15th day was assessed along with duration of Hospital stay and time to return to normal work. The statistical analysis was done using SPSS (Statistical Package for Social Sciences) Version 15.0 statistical Analysis Software. The values were represented in Number (%) and Mean±SD.

RESULTS

Mean age of patients of Group A (43.73±11.85 years) was found to be higher as compared to Group B (38.97±13.46 years). Out of 60 patients enrolled in the study only 13 (21.7%) patients were female, rest 47 (78.3%) were male. Gender ratio was 3.62.

Table 1: Distribution of Study Population according to Grade of Hemorrhoids.

Grade of Hemorrhoids	Group A (n=30)		Group B (n=30)		Total (N=60)	
	No.	%	No.	%	No.	%
Grade III	26	86.7	30	100.0	56	93.3
Grade IV	4	13.3	0	0.0	4	6.7
$\chi^2=4.286(df=1); p=0.038$						

Proportion of females was higher in Group B (30.0%) as compared to Group A (13.3%). Duration of surgery among majority of patients of Group B was <30 (80.0%) minutes

while in patients of Group A was >40 minutes (83.3%) and the difference was statistically significant. In Group A, hospital stay in majority of patients was 2 days only

(90.0%) followed by 1 day (6.7%) and rest 1 (3.3%) had 3 days of hospital stay while in Group B duration of hospital stay was 1 day (96.7%) in majority of patients and only 1 patient had hospital stay of 2 days. On comparing the difference of hospital stay among patients of Group A and Group B statistically was found to be significant ($p < 0.001$). The hospital stay was shorter in stapler group has been well confirmed by a number of studies 13,14

Table 2: Distribution of study population according to pain in passage of first stool.

Pain score	Group A (n=30)		Group B (n=30)		Total (N=60)	
	No.	%	No.	%	No.	%
<3	2	6.7	29	96.7	31	51.7
3 to 6	5	16.7	0	0.0	5	8.3
≥7	23	76.7	1	3.3	24	40.0
$\chi^2=48.683(df=2);$ $p < 0.001$						

Pain score of majority of patients of Group A was ≥ 7 (76.7%), only 6.7% had pain score < 3 and rest 16.7% had pain score 3 to 6. On comparing the difference of pain in passage of first stool among patients of Group A and

Group B statistically was found to be highly significant. On day 3, median pain score of patients of Group A and Group B was 3 and 2 respectively. Mean pain score of patients of Group A (3.50 ± 1.36) was found to be higher as compared to Group B (2.10 ± 0.55). On comparing the difference statistically was found to be significant. On Day 7, median pain score of patients of Group A and Group B was 2 and 0 respectively. Mean pain score of patients of Group A (1.87 ± 1.36) was found to be higher as compared to Group B (0.47 ± 0.57).

On comparing the difference statistically was found to be significant.

On Day 15, median pain score of patients of both the groups was 0. Mean pain score of patients of Group A (0.23 ± 0.50) was found to be higher as compared to Group B (0.00 ± 0.00). On comparing the difference statistically was not found to be significant.

Complaints of itching was reported by higher proportion of patients of Group A (23.3%) as compared to Group B (13.3%) but difference in incidence of itching among patients of above two groups was not found to be statistically significant.

Table 3: Between Group comparison of pain at different time intervals during followup.

Period of observation	Group A (n=30)			Group B (n=30)			Mann Whitney U test	
	Md	Mean	SD	Md	Mean	SD	Z	P
Day 3	3.00	3.50	1.36	2.00	2.10	0.55	6.477	<0.001
Day 7	2.00	1.87	1.07	0.00	0.47	0.57	5.604	<0.001
Day 15	0.00	0.23	0.50	0.00	0.00	0.00	2.558	0.011

Range of time to return to normal work of patients of Group A was 7 to 13 days while that of Group B was 2 to 7 days. Median duration of time to return to normal work was 2 days in Group B and 7 days in Group A. Time to

return to normal work was earlier in Group B (2.53 ± 1.36 days) as compared to Group A (8.30 ± 1.62 days). On comparing the difference of duration of time to return to normal work among patients of Group A and Group B was found to be statistically significant.

Table 4: Between Group comparison of time to return to normal work (days).

Group	No. of patients	Min.	Max.	Median	Mean	S.D.
Group A	30	7	13	8.00	8.30	1.62
Group B	30	2	7	2.00	2.53	1.36
Total	60	2	13	7.00	5.42	3.26

Sachin et al in their study found that a mean of 8 days in stapled group and 15 days in open group was noted.¹³ About 50 % of stapled group had returned to work at the end of one week and the rest by second week. Only one patient took 16 days to return to work. In the open group,

38% patients returned to work by 2 weeks and rest after 2 weeks.

Wound infection and reintervention was not reported by any of the patient from either of the groups.

DISCUSSION

Sachin et al., in their study found that in the stapled hemorrhoidopexy group, 38% underwent surgery within 20 - 30 min.¹⁵ The mean duration of surgery was 33 min, ranging from 25 to 55 minutes. In the open hemorrhoidectomy group, mean duration was 44 minutes, ranging from 25 to 55 minutes.

However, Ho et al found that the conventional hemorrhoidectomy required less time as compared to the stapled technique.¹⁶ This is probably because the study by the Ho et al was conducted between 1999-2000, when the stapled hemorrhoidectomy was still in its earlier stages, learning curve being the contributing factor.

In a study done by P Thejeswi et al the average time for the passage of first stools in the stapled, open and the closed group was 20 hours, 24.9 hours and 23.4 hours, respectively.¹⁷ Ortiz et al reported that there was No statistical difference in the meantime to return to work.¹⁸ He said that social and cultural factors need to be taken into account in the assessment of return to work.

CONCLUSION

Of the 60 patients in the current study, 32 are still in the follow up with the maximum follow up period of 11 months. There was no case of recurrence of haemorrhoids in this study. The factor of cost was not evaluated in the study since the hospital stay as well as stapling instrument was totally free in U.P, UMS, Saifai.

However, it has been clearly highlighted in this study that considering the cost of hospital admission with economic loss due to absence from work, the open method turned out to be at par or even expensive in comparison with the stapled technique.

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