

OPEN HAEMORRHOIDECTOMY & STAPLER HAEMORRHOIDECTOMY: A COMPARATIVE CLINICAL STUDY

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Abstract

Haemorrhoids are one of the most common benign anorectal problem worldwide. Various techniques of haemorrhoidectomy have been reported in an attempt to find the ideal operation with low morbidity and good clinical results. Open haemorrhoidectomy (Milligan-Morgan) is a widely-used and accepted procedure. A total of 77 consecutive patients between the age group of 20 and 85 years, diagnosed to have grade III or IV haemorrhoids were included in the study, divided into 2 groups, Group 1 undergoing Open haemorrhoidectomy (41 patients) and Group 2 undergoing Stapler haemorrhoidectomy (36 patients). The mean hospital stay for patients with stapler haemorrhoidectomy was 2.4 ± 0.8 days in comparison to the open group where the mean hospital stay was 5 ± 2.6 days (P -value < 0.001). There was significant difference in complication between the two groups, stapler group having lesser post op complications during the study period. The stapler group patients returned to normal activity significantly early.

Keyword: Hemorrhoids, Stapler Hemorrhoidectomy, open Hemorrhoidectomy

Introduction

Haemorrhoids are engorged venous plexuses of the anal cushions in anal canal and can be symptomatic as prolapse, bleeding, pain, thrombosis and pruritus. These are one of the oldest illnesses known to humanity. Hippocrates treated haemorrhoids with white-hot iron by burning them off on ca. 400 B. C. At least 50% of the people over the age of fifty have some degree of hemorrhoid formation. Ferguson and Heaton said, "Hundred percent of the population does suffer from hemorrhoids at least once in their lifetime"^[1].

The exclusive prevalence of this ailment in the human race is acclaimed as a downside to the upright posture adapted as an evolutionary refinement of Homosapiens. The irksome nature of the hemorrhoidal disease has been of painful concern to the sufferer and the treating

surgeon alike [2].

The anal canal, which extends for a distance of approximately 4 cm from the anorectal ring to the hairy skin of the anal verge, is the distal most portion of the alimentary canal.

Haemorrhoids are one of the most common benign anorectal problem worldwide. It is impossible to give an accurate figure for their prevalence. Haemorrhoids have plagued humans since they attained the erect posture [3].

Various techniques of haemorrhoidectomy have been reported in an attempt to find the ideal operation with low morbidity and good clinical results. Open haemorrhoidectomy as described by Milligan and associates in 1937 has been accepted world wide as best choice of treatment but is often associated with significant post operative pain, discomfort and lengthy recovery time.

Longo in 1995 first described a new surgical technique for treatment of haemorrhoids using circular staplers. It has come up as a day care procedure with minimal post operative pain and early return to work. As a result if patients are given a choice they favour conservative or office based treatment for haemorrhoids rather than open Haemorrhoidectomy [4].

Methodology

A detailed history was taken and all patients were subjected to clinical examination including per rectal and proctoscopic examination. Routine lab investigations like blood and urine examination and screening of chest was done.

Post operatively the patients are assessed regarding the additional need for analgesics and are given as and when on required basis. Postop pain evaluation was done using numerical pain rating score (NPRS).The patients were followed up for 3 months and any complications encountered between the 2 procedures was compared.

Data analysis

- Data analysis was entered in Excel sheet
- Appropriate statistical software was used for analysis of data

Ethical considerations

- Institutional ethical committee clearance was obtained
- Informed written consent was obtained from participants.
- Confidentiality was maintained and ensured throughout the study.

Results

Table 1: Average pain score among both groups

	N	Pain score		Independent sample t test	
		Mean	sd	t	P
Open Hemorrhoidectomy	41	4.78	1.31	8.501	<0.001
Stapler Hemorrhoidectomy	36	2.47	1.03		

Average Pain score among Open Hemorrhoidectomy group was 4.78±1.31 and that of Stapler Hemorrhoidectomy group was 2.47±1.03. The observed difference was statistically significant (p<0.05). The average Post operative pain score among Open Hemorrhoidectomy group was comparatively higher than that of Stapler Hemorrhoidectomy group.

Table 2: Average Post operative Numerical Pain score among both groups

	Post operative Numeric Pain Rating Scale							Mann-Whitney U test	
	N	Mean	sd	Median	Inter quartile range	Min	Max	z	p
Open Hemorrhoidectomy	41	4.8	1.3	5	2-5	2	8	6.353	
Stapler Hemorrhoidectomy	36	2.5	1.0	2	1-3	1	5		<0.001

Average Post operative Numerical Pain score among Open Hemorrhoidectomy group was 4.8 ± 1.3 and that of Stapler Hemorrhoidectomy group was 2.5 ± 1.0 . The observed difference was statistically significant ($p < 0.05$). The average Post operative pain score among Open Hemorrhoidectomy group was comparatively higher than that of Stapler Hemorrhoidectomy group.

Table 3: Average Post operative hospital stay (in days)

	Post operative hospital stay in days			Independent sample t test	
	N	Mean	sd	t	P
Open Hemorrhoidectomy	41	5.00	2.65	5.586	<0.001
Stapler Hemorrhoidectomy	36	2.44	0.77		

Average Post operative hospital stay(in days) among Open Hemorrhoidectomy group was 5 ± 2.65 and that of Stapler Hemorrhoidectomy group was 2.44 ± 0.77 . The observed difference was statistically significant ($p < 0.05$). The average Post operative hospital stay among Open Hemorrhoidectomy group was comparatively higher than that of Stapler Hemorrhoidectomy group.

Table 4: Mean post operative hospital stay in days among open and stapler haemorrhoidectomy group using Mann-Whitney U test.

	Post operative hospital stay in days							Mann-Whitney U test	
	N	Mean	sd	Median	Inter quartile range	Min	Max	z	P
Open Hemorrhoidectomy	41	5.0	2.6	4	3-5.5	2	12	5.963	
Stapler Hemorrhoidectomy	36	2.4	0.8	2.5	2-3	1	4		<0.001

Lower and upper end of the whisker represents minimum and maximum duration. Lower border of the box represents 25th percentile and upper border represents 75th percentile. The middle horizontal line in the box represents the median duration.

Table 5: Post operative complications

Post OP Complications	Open Hemorrhoidectomy		Stapler Hemorrhoidectomy		Total	
	N	%	N	%	N	%
Present	6	14.6	0	0.0	6	7.8
Absent	35	85.4	36	100.0	71	92.2
Total	41	100.0	36	100.0	77	100.0

$$\chi^2 = 5.714, df=1, p=0.017$$

Post operative complications among Open Hemorrhoidectomy group was 14% and that of Stapler Hemorrhoidectomy group was almost nil. The observed difference was statistically significant ($p < 0.017$). The average Post operative complications among Open Hemorrhoidectomy group was comparatively higher than that of Stapler Hemorrhoidectomy group.

Table 6: The average duration to get back to regular activity

Duration to get back to regular activity	Open Hemorrhoidectomy		Stapler Hemorrhoidectomy		Total	
	N	%	N	%	N	%
<1 week	6	14.6	36	100.0	42	54.5
>1 week	35	85.4	0	0.0	35	45.5
Total	41	100.0	36	100.0	77	100.0

$$\chi^2 = 56.341, df=1, p < 0.001$$

Only 14.6% among Open Hemorrhoidectomy group were able to get back to their regular activity within 1 week. All of Stapler Hemorrhoidectomy group went back to their regular activity by 1 week. The observed difference was statistically significant ($p < 0.05$). The average duration to get back to regular activity among Open Hemorrhoidectomy group was comparatively higher than that of Stapler Hemorrhoidectomy group.

Discussion

In this study, postoperative pain was assessed using The Numeric Pain Rating Scale (NPRS). Comparison of pain scores in the two groups of patients was carried out. Average Pain score among Open Hemorrhoidectomy group was 4.78 ± 1.31 and that of Stapler Hemorrhoidectomy group was 2.47 ± 1.03 . The observed difference was statistically significant ($p < 0.05$). The average Post operative pain score among Open Hemorrhoidectomy group was comparatively higher than that of Stapler Hemorrhoidectomy group. Similar conclusions were drawn from previous studies by Tjandra et al. that found there was less pain after stapler haemorrhoidectomy as evidenced by lower pain scores at rest and on defecation and less analgesic requirements^[5]. Stolfi et al. were also in agreement with this^[6].

In present study, Average Post operative hospital stay (in days) among Open Hemorrhoidectomy group was 5 ± 2.65 and that of Stapler Hemorrhoidectomy group was 2.44 ± 0.77 . The observed difference was statistically significant ($p < 0.05$). The average Post operative hospital stay among Open Hemorrhoidectomy group was comparatively higher than that of Stapler Hemorrhoidectomy group. 80% of patients were discharged within 3 days from the stapled group.

In our study, Post operative complications among Open Hemorrhoidectomy group was 14% and that of Stapler Hemorrhoidectomy group was almost nil. The observed difference was statistically significant ($p < 0.017$). The average Post operative complications among Open Hemorrhoidectomy group such as bleeding and urinary retention was comparatively higher than that of Stapler Hemorrhoidectomy group.

In present study, nearly all the patients resumed work by around 14th day. Only 14.6% among Open Hemorrhoidectomy group were able to get back to their regular activity within 1 week where as all of Stapler Hemorrhoidectomy group went back to their regular activity by 1 week. The observed difference was statistically significant ($p < 0.05$). The average duration to get back to regular activity among Open Hemorrhoidectomy group was comparatively higher than that of Stapler Hemorrhoidectomy group. Studies by Hetzer FH et al. [7] Khan NF et al. have reported similar findings [8].

Conclusion

Stapler haemorrhoidectomy is associated with lesser post-operative pain than the conventional open haemorrhoidectomy. It is associated with shorter duration of hospital stay following surgery when compared to open haemorrhoidectomy. Patients resume their routine daily activity faster than patients with open haemorrhoidectomy. It is associated with almost less rate of immediate post-operative complications like bleeding. However, it is difficult to recommend stapler haemorrhoidectomy as a procedure of choice for all patients in view of economic considerations. However, for those who can afford the procedure, it offers a benefit of lesser operating time, less postoperative pain and earlier return to normal activity without increase in complications. We would still suggest long term follow-up of these patients which will help in patient management.

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