



E-ISSN: 2616-3470

P-ISSN: 2616-3462

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2021; 5(2): 126-128

Received: 02-02-2021

Accepted: 09-03-2021

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## Comparative study of short term results of open vs stapled hemorrhoidectomy

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DOI: <https://doi.org/10.33545/surgery.2021.v5.i2c.671>

#### Abstract

**Background:** Stapled hemorrhoidectomy has been considered as a novel technique in the surgical treatment of hemorrhoids. Although it involves substantial cost, it results in shorter period of convalescence in comparison with open hemorrhoidectomy.

**Methods:** This study comprised of patients admitted for elective surgery of hemorrhoids over a period of 24 months during January 2018 to December 2019. The patients were divided into two groups. One group underwent open hemorrhoidectomy and the other group stapled hemorrhoidectomy. The two groups were compared for duration of hospital stay, return to work and post operative complications.

**Results:** The mean (S.D) age was 39.36(10.22). Stapled hemorrhoidectomy had shorter duration of hospital stay and early return to work with less pain and without major post operative complications.

**Conclusion:** The use of stapler in the treatment of hemorrhoids is safe and effective than conventional hemorrhoidectomy with many benefits.

**Keywords:** Hemorrhoids, Milligan Morgan hemorrhoidectomy, staplers

#### Introduction

Hemorrhoids are one of the most common benign anorectal problems worldwide. The treatment of third and fourth degree hemorrhoids is surgical. Hemorrhoidectomy is one of the most commonly performed anorectal operations. Milligan- Morgan Hemorrhoidectomy as described in 1937 has remained the most popular among many surgical techniques proposed. Surgical hemorrhoidectomy has a reputation for being a painful procedure for a fairly benign disease, causing postoperative pain needing about 2-3 days hospital stay with a convalescence of at least one month. Stapled hemorrhoidectomy is an exciting modality that represents a paradigm change in the management of hemorrhoids. however it has been met with a mixture of sceptism and interest.

Stapled hemorrhoidectomy, later stapled hemorrhoidectomy (PPH), was first described in 1995 [5, 9]. It has been associated with improved short-term outcomes, including less postoperative pain, shorter operating times, earlier return to work, and greater patient satisfaction [4, 5, 10, 11, 12, 13].

The present study was designed to compare the short term results of stapled hemorrhoidectomy with Milligan-Morgan Hemorrhoidectomy.

**Objectives:** To compare the short term outcome of Stapledhemorrhoidectomy with Milligan Morgan hemorrhoidectomy in terms of.

Duration of hospital stay

Post operative complications

Days taken for Return to Work

Anorectal physiological functions and recurrence.

#### Materials and Methods

##### Materials

##### Source of data

Ninety patients undergoing surgery for hemorrhoids at rural tertiary care hospital and medical college, Perambalur, Tamil Nadu.

Period of study

January 2018 to December 2019.

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**Inclusion criteria**

Grade 3 and grade 4 Hemorrhoids

**Exclusion criteria**

Acute haemorrhoidal episodes with thrombosis Prior haemorrhoidectomy Undercurrent anal pathology (like fistula in ano and anal fissure) Prolapse of single anal cushion anal stenosis

**Results**

**Study Design:** A Comparative study consisting of 90 patients divided into groups, 45 in to Stapled Hemorrhoidectomy and 45 in Open hemorrhoidectomy is undertaken to study the short term results.

**Table 1:** Comparison of age distribution of patients studied

Age in years	Stapled		Open		Total	
	No	%	No	%	No	%
21-30	10	24.4	15	31.1	25	27.8
31-40	15	31.1	10	24.4	25	27.8
41-50	15	33.3	13	28.9	28	31.0
51-60	5	11.1	5	11.1	10	11.1
>60	0	0.0	2	4.4	2	2.1
Total	45	100.0	45	100.0	90	100.0
Mean+SD	39.69+9.49		39.02+11.03		39.36+10.22	

**Table 2:** Comparison of gender distribution of patients studied

Gender	Stapled		Open		Total	
	No	%	No	%	No	%
Male	25	53.3	32	73.3	57	63.3
Female	20	46.7	13	26.7	33	36.7
Total	45	100.0	45	100.0	90	100.0

**Table 3:** Post-surgeries findings

Post-surgeries findings	Stapled (n=45)		Open (n=45)		P value
	No	%	No	%	
Bleeding	6	13.3	10	22.2	0.270
Supportive stitch	5	11.1	9	20.0	0.245
Residual Prolapse	0	0.0	23	51.1	<0.001**

**Table 4:** Comparison of duration of hospital stay in days.

Duration of Hospital stay in days	Stapled		Open	
	No	%	No	%
Up to 2	36	80.0	1	2.2
2-4	9	20.0	35	77.8
>4	0	0.0	9	20.0
Total	45	100.0	45	100.0
Mean +SD	1.96+0.55		3.51+0.72	

**Table 5:** Comparison of Pain scores in two groups of patients

Pain Scores (VAS)	Stapled	Open	P value
6 hours	1.78+0.77	2.89+0.86	<0.001**
12 hours	1.82+0.61	2.13+0.82	0.047*
24 hours	1.42+0.62	1.89+0.80	0.003**

**Table 6:** Complications

Complications	Stapled (n=45)		Open (n=45)		P value
	No	%	No	%	
Retention	7	15.6	14	31.1	0.081+
Bleeding	5	11.1	9	20.0	0.245
Pain	13	28.9	26	57.8	0.006**
Incontinence	0	0.0	2	4.4	0.494

**Table 7:** Follow up status

Follow up status	Stapled		Open		P value
	No	%	No	%	
Incontinence Month	0	0.0	3	6.7	0.242
Incontinence Month	0	0.0	0	0.0	-
Recurrence month	1	2.2	4	8.9	0.361

**Discussion**

Ninety patients undergoing surgery for hemorrhoids at rural tertiary care hospital and medical college, Perambalur, Tamil Nadu fulfilled the criteria and were included in our study. Forty five underwent Longo technique of Stapled hemorrhoidopexy and forty five underwent Milligan Morgan technique of open hemorrhoidectomy. 48.9% patients had Grade 3 in stapled and 46.75% in open, and 51.1% had grade 4 in stapled and 53.3% in open.

The mean (S.D) age was 39.36(10.22). in open hemorrhoidectomy group 73.3% were males and 26.7% were females. And in stapled haemorrhoidopexy 53.3% were males and 46.7% were females. Samples are matched based on grade with P=0.833.

Supportive stitch was required in five patients. Post surgery six patients had bleeding as compared to 10 in the open group (13%, 22%). Urinary retention was also found to be higher in the open group. None in the stapled group had a residual prolapse. These was no incontinence in any group at 6 months. At 1 month, three patients in the open group reported incontinence to flatus and feces. No report of incontinence in stapled group.

Jayaraman S, *et al* Cochrane Database Syst Rev. in 2006 79 on Stapled versus conventional surgery for hemorrhoids noted that associated with comparable short term results, stapled hemorrhoidopexy is associated with a higher long-term risk of hemorrhoid recurrence and the symptom of prolapse. The authors concluded that conventional excisional surgery remains the "gold standard" in the surgical treatment of internal hemorrhoids, if hemorrhoid recurrence and prolapse are the most important clinical outcomes.

However Tjandra JJ, Chan MK, (2007) systematic review stated that although there was increase in the recurrence of hemorrhoids at one year or more after stapled procedure the overall need of surgical and nonsurgical reintervention after the two procedures was similar. The conclusion was stapled hemorrhoidopexy is safe with many short-term benefits and the long-term results are similar to conventional procedure

**Conclusion**

The findings of our study confirm that stapled hemorrhoidopexy is associated with shorter duration of surgery, less postoperative pain and need for analgesia, shorter duration of hospital stay and a quicker recovery, earlier return to work and a high patient satisfaction as compared with Milligan – Morgan Open Hemorrhoidectomy. The procedure is not associated with major post operative complications. There is no recurrence, residual prolapse or incontinence in the follow up period of six months. We conclude that stapled hemorrhoidopexy is safe with many short-term benefits. It is a novel technique and has emerged as an alternative to open hemorrhoidectomy, long considered the "gold standard"

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