

Research Article

A PROSPECTIVE COMPARATIVE STUDY OF HEMORRHOIDECTOMY WITH OUT LATERAL SPHINCTEROTOMY AND HEMORRHOIDECTOMY WITH LATERAL SPHINCTEROTOMY

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Abstract

**Background:** Hemorrhoidectomy is associated with significant pain. Different methods have been tried to reduce post operative pain such as local application of glyceryl trinitrate, calcium channel blockers & Diaosmin therapy. None of them proved to be effective & superior to one another. Various studies done, with controversial results regarding the routine procedure of internal sphincterotomy along with hemorrhoidectomy. This combined approach results in relaxation of internal sphincter and leads to reduced post operative pain, early wound healing and early recovery. **Conclusion:** Hemorrhoidectomy with lateral sphincterotomy effectively reduces post-operative pain, promotes early wound healing and accelerates recovery.

**Keywords:** Hemorrhoidectomy, Lateral Internal Sphincterotomy, Anal tone, Visual Analogue scale, Post Operative pain.

INTRODUCTION

About 1 in 4 Hemorrhoids patients experience swelling and dilatation of veins causing symptoms that require surgery. Once Hemorrhoids are identified, they are graded from I to IV, based on their location they are classified as either internal or external Hemorrhoids. The open Hemorrhoidectomy (Milligan morgan procedure) is a widely used procedure for Grade III and IV Hemorrhoids. This procedure is associated with significant post operative pain, bleeding, mucous discharge, urinary retention and anal stenosis. There are many causes of pain after Hemorrhoidectomy such as urinary retention and wound edema, but the most important is due to the spasm of internal sphincter in young patients with high anal tone. So, Lateral internal sphincterotomy is performed in conjunction with Hemorrhoidectomy to relieve internal Sphincter muscle spasm and lower anal pressure.

Objective

To compare Hemorrhoidectomy without lateral sphincterotomy and Hemorrhoidectomy with lateral sphincterotomy - post operative pain

MATERIALS AND METHODS

- Study Design: Comparative study (prospective)
- Sample Size:
- Group A: Haemorrhoidectomy without Lateral Sphincterotomy (n=28)
- Group B: Haemorrhoidectomy with Lateral Sphincterotomy (n=28)
- Study Period: 18 months, May 2024 to October 2025
- Place of Study: Department of General Surgery, SIMSRC, Bangalore

Inclusion criteria

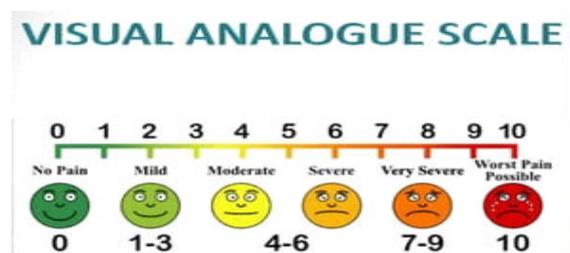
All patients more than 18 years of age. Symptomatic Grade Three, Grade Four Hemorrhoids. Patients with the above condition willing to give written informed consent for the proposed procedure

Exclusion criteria

All patients less than 18 years of age. Patients with perianal fistula, perianal abscess, anal incontinence or rectal prolapse, rectal polyps & tumors. Previously treated with sclerotherapy and other modalities for hemorrhoids.

METHODOLOGY

Data collected by detailed history, systemic examination, clinical examination are recorded. Local examination includes digital rectal examination and anal speculum examination (proctoscopy). Routine blood investigations and appropriate preoperative investigations are performed. Demographic data such as name, age, gender etc. are recorded; the clinical history of the symptoms, post-op complications are recorded. Post operative pain is compared in between open Hemorrhoidectomy without lateral sphincterotomy & open Hemorrhoidectomy with lateral sphincterotomy. Preoperative pain and post operative pain scoring were obtained using a visual analogue scale of 10 and results are tabulated. Patients are followed up for a period of 1 month i.e. postoperatively at the day 1, day 3, 1st week, 4th week. Data thus obtained is statistically analyzed.



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**Age and Sex Distribution**

**Table 1. Age and Sex Distribution**

Age in years	MALE	%	FEMALE	%	TOTAL
20-35	8	14.28	4	7.14	12
36-50	22	39.28	3	5.35	25
51-65	13	23.21	2	3.57	15
>66	4	7.14	0	0	4
TOTAL	47	83.92	9	16.07	56

In the study 83.9% of subjects were males. Majority of subjects were males in age group 36 to 50 years- 39.28%. 16.07% of subjects were females, about 7.14% belonging to the 20 to 35 years age group. Male to Female sex incidence was 5.2:1.

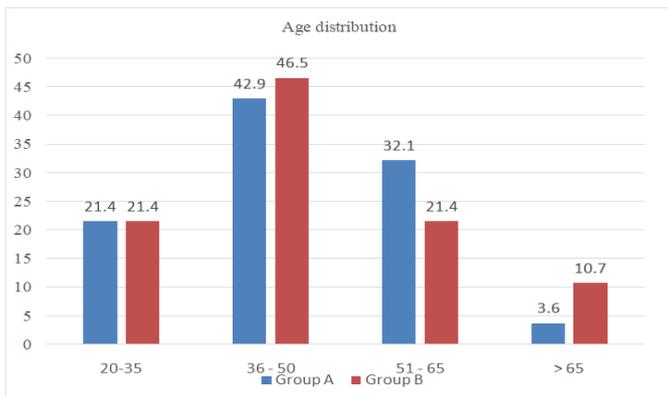
Group A-Hemorrhoidectomy

Group B-Hemorrhoidectomy with lateral internal sphincterotomy

**Table 2. Age distribution in two groups**

Age groups	Group A		Group B	
	n	%	n	%
20-35	6	21.4	6	21.4
36-50	12	42.9	14	46.5
51-65	9	32.1	6	21.4
>65	1	3.6	3	10.7
Total	28	100	28	100

Chi square value: 1.64 P value:0.65 (Not significant)

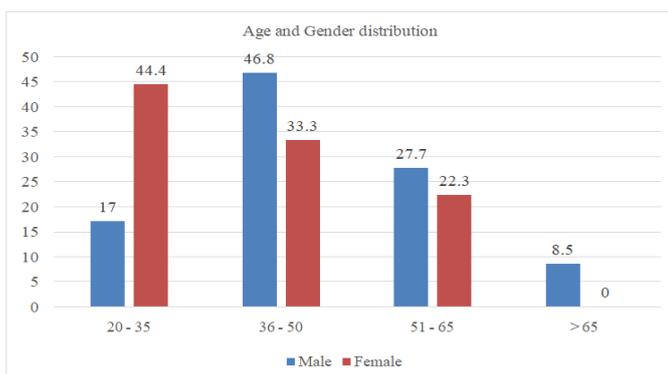


**Graph 1. Age distribution in two groups**

**Table 3. Age and gender distribution in two groups**

Age groups	Male		Female	
	n	%	n	%
20-35	8	17.0	4	44.4
36-50	22	46.8	3	33.3
51-65	13	27.7	2	22.3
>65	4	8.5	0	0
Total	47	100	9	100

Chi square value: 3.81 P value:0.283 (Not significant)



**Graph 2. Age and Gender distribution in two groups**

**Presenting Symptoms**

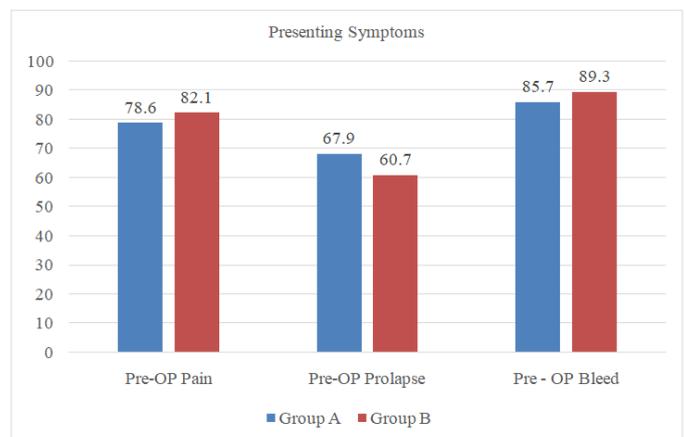
In the study, bleeding was the predominant symptom with 87.5% of subjects. Pain was seen in 80.35% of the patients. Prolapse of hemorrhoids was seen in 64.28% of patients.

**Table 4. Presenting symptoms**

Symptoms	Number	%	Males	%	females	%
Bleeding	49	87.5	42	75	7	12.5
Prolapse	36	64.28	32	57.14	4	7.14
Pain	45	80.35	37	66.07	8	14.28

**Table 5. Presenting symptoms in two groups**

Symptoms	Group A (n=28)		Group B (n=28)		P value
	n	%	n	%	
Pre-OP pain	22	78.6	23	82.1	0.74
Pre-OP prolapse	19	67.9	17	60.7	0.58
Pre-OP bleed	24	85.7	25	89.3	0.69



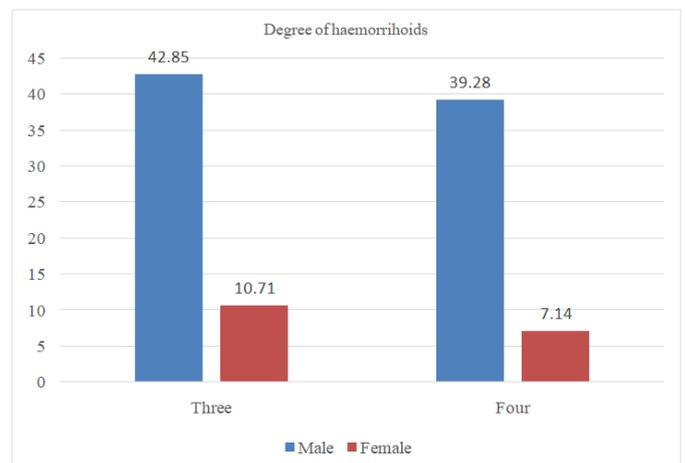
**Graph 3. Presenting symptoms in two groups**

**Degree of haemorrhoids**

In the study 53.58% of patients presented with IIIrd degree hemorrhoids and 46.42% of patients presented with IVth degree hemorrhoids.

**Table 6. Degree of hemorrhoids**

Degree	Total	%	Males	%	Females	%
III	30	53.58	24	42.85	6	10.71
IV	26	46.42	22	39.28	4	7.14
Total	56	100	46	82.13	10	17.85

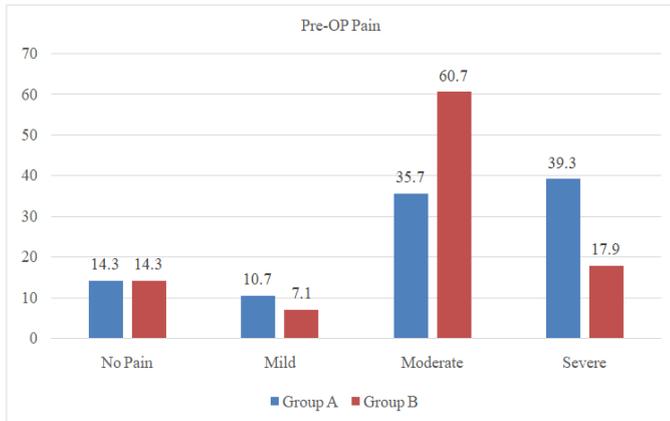


**Graph 4. Degree of hemorrhoids in two groups**

**Table 7. Distribution of pre OP pain in two groups**

Pre-OP pain	Group A		Group B	
	n	%	n	%
No pain	4	14.3	4	14.3
Mild (1-4)	3	10.7	2	7.1
Moderate (5-7)	10	35.7	17	60.7
Severe (>7)	11	39.3	5	17.9
Total	28	100	28	100

Chi square value: 4.27 P value:0.23 (Not significant)



**Graph 5. Distribution of pre OP pain in two groups**

**Type of surgery**

Alternate patients were placed into Group A and Group B. Each group consisted of 28 patients. Group A underwent Hemorrhoidectomy (H). Group B underwent Hemorrhoidectomy (H) with Lateral Internal Sphincterotomy (LIS).

**Table 8. Type of surgery in two groups**

	Total	Males	%	Females	%
Group A (H)	28	24	42.85	4	7.14
Group B (H+LS)	28	23	41.07	5	8.92



**Graph 6. Type of surgery in two groups**

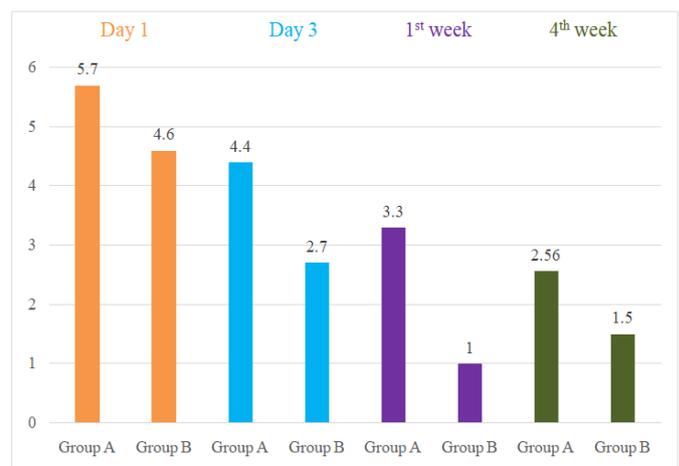
**Post OP pain in two groups**

On Post operative day 1 in Group A 64% of patients complained of moderate degree of pain, whereas 14% of patients complained of severe pain. In Group B 50% of patients complained of mild pain, 42% complained of moderate pain.

On post operative day 3, Group A all the patients continued to have pain. 53% of patients continued to have mild pain post procedure. 46% complained of moderate degree of pain. In Group B, 27 patients complained of pain, mild in 82% and 14% moderate pain.

On post operative 1<sup>st</sup> week, Group A, 22 patients continued to have pain. 67% of patients continued to have mild pain post procedure. 10% complained of moderate degree of pain. In Group B, 20 patients complained of pain, mild degree of pain in 71%.

On post operative 4<sup>th</sup> week, in Group A, 18 patients continued to have mild pain. In Group B, 8 patients continued to have mild pain.



**Graph 7. Post OP pain in two groups**

**Table 9. Independent sample test – comparing role of Sphincterotomy in post op pain in both groups**

Time Period	Group	VAS Score		P-value
		Mean	S.D.	
Post OP Day 1	Open Hemorrhoidectomy	5.7	1.6	0.007
	Hemorrhoidectomy + Lateral Sphincterotomy	4.6	1.4	
Post OP Day 3	Open Hemorrhoidectomy	4.4	1.5	<0.001
	Hemorrhoidectomy + Lateral Sphincterotomy	2.7	1.2	
First week	Open Hemorrhoidectomy	3.3	1.7	<0.001
	Hemorrhoidectomy + Lateral Sphincterotomy	1.0	1.0	
Fourth Week	Open Hemorrhoidectomy	2.5	0.7	0.0005
	Hemorrhoidectomy + Lateral Sphincterotomy	1.5	0.5	



**Fig. 1. Open Hemorrhoidectomy**



**Fig. 2. Lateral Internal Sphincterotomy incision**



**Fig. 3. Lateral Internal Sphincterotomy**



**Fig. 4. Post Hemorrhoidectomy with Lateral Internal Sphincterotomy**

## DISCUSSION

Surgical hemorrhoidectomy is currently the most popular treatment for patients with 3<sup>rd</sup> and 4<sup>th</sup> degree hemorrhoids. The exact cause of postoperative pain after hemorrhoidectomy has not been defined yet, but hypertonia of internal sphincter is widely believed to be the cause. Recent anorectal manometric studies have shown that internal sphincter spasm is present even before surgery in hemorrhoids patient. In this study the patients were randomized into two groups and the patients that received sphincterotomy showed decreased pain in the post procedure. Sphincterotomy can be added to patients with hemorrhoids who have high preoperative anorectal manometric reading for better reduction in pain and addition of sphincterotomy showed no complications like incontinence to feces or flatus. In study no complications were seen with respect to the additional procedure.

## Conclusion

Hemorrhoidectomy with lateral sphincterotomy effectively reduces post-operative pain, promotes early wound healing and accelerates recovery

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