

A Comparative Study Between open Hemorrhoidectomy With Lateral Internal Sphincterotomy And Hemorrhoidectomy Without Lateral Internal Sphincterotomy.

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Abstract: Haemorrhoids is a common human illness that has limited choice accessible for the typical open surgical procedure. The foremost common complication of open surgical procedure is operative pain caused by spasm of the inner sphincter muscle. Lateral internal sphincterotomy could be an ordinarily performed procedure for relieving spasm and pain. Hence, we tend to determine whether or not addition of lateral internal sphincterotomy beside surgical procedure will facilitate within the operative pain relief. The aim of this study is to compare of open haemorrhoidectomy without lateral internal sphincterotomy and haemorrhoidectomy with lateral internal sphincterotomy. The study conducted between January 2014 to December 2016 in a district level public hospital and several private hospitals in Feni districts, Chittagong, Bangladesh. Patients were selected purposively who were received treatment for 3rd and 4th degree Haemorrhoids in our selected hospitals for surgical procedure with lateral internal sphincterotomy or without lateral internal sphincterotomy. In the study 54 patients were selected maintaining inclusion and exclusion criteria of the study. Among them 27 in open hemorrhoidectomy group with lateral internal sphincterotomy and another 27 in open hemorrhoidectomy alone. Sixty nine (69%) were male and remaining thirty one (31%) were female. Patients in 2nd group reported less postoperative pain as compared to 1st group. In final assessment, we found 6 patients in 1st group who were completely pain free but 19 in 2nd group (p value=0 .00). In post operative stage using (VAS: visual analog scale), we see less post operative pain recorded from 2nd group. In the conclusion, we observed for releasing spasm and pain, Lateral internal sphincterotomy combined with hemorrhoidectomy is more suitable procedure than Lateral internal sphincterotomy alone.

Key words: Hemorrhoids, hemorrhoidectomy, Lateral sphincterotomy, Post operative pain

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I. Introduction

Haemorrhoids are a common pathology that causes pain, itching and bleeding in the rectum and/or anus. They are also known as piles. While everyone has hemorrhoids, about 1 in 4 experience swelling and distension of these veins, causing symptoms that require management. Haemorrhoids are classified as either internal or external depending on their location and the type of cells surrounding them. Typically, external hemorrhoids are the most bothersome. Haemorrhoids are diagnosed Text Wrapping Break by using medical history, symptoms and a digital rectal exam. If abnormalities such as lumps or masses are found, there may need an additional test called a sigmoidoscopy. Once haemorrhoids are identified, they're graded from I to IV Grade I: haemorrhoids bleed, but do not prolapse, Grade II: haemorrhoids prolapse, but spontaneously reduce, Grade III: haemorrhoids prolapse, but must be manually reduced, Grade IV: haemorrhoids prolapse, but cannot be reduced.

The usual clinical course of this disease includes: rectal bleeding and prolapse and if not treated could be developed serious complications^{1,2}. The open hemorrhoidectomy (Milligan Morgan procedure) is a widely used procedure for third and fourth degree haemorrhoids³. This procedure is associated with significant postoperative pain, bleeding, mucous discharge, urinary retention and anal stenosis^{4,5}. There are many causes of

pain after hemorrhoidectomy such as anal packing, urinary retention & wound edema but the most important is due to the spasm of internal sphincter which remains exposed after open hemorrhoidectomy especially in young patients with high anal tone^{6,7,8}. Various studies done, with controversial results regarding the routine procedure of internal sphincterotomy along with hemorrhoidectomy (IS +H) for the relief of postoperative pain. This combined approach results in relaxation of internal sphincter and leads to reduce post operative pain, early wound healing and early recovery. Some studies report that the addition of internal sphincterotomy to routine hemorrhoidectomy is unnecessary and carries the added risk of fecal incontinence (up to 8-30%). Till date there is no robust data that suggests role of internal sphincterotomy as part of the treatment. Therefore we designed this study to compare the postoperative pain & frequency of anal incontinence in the two treatment modalities namely hemorrhoidectomy alone and hemorrhoidectomy combined with internal sphincterotomy

II. Objectives Of The Study

General Objective:

- To compare open hemorrhoidectomy with/without internal sphincterotomy with regard to post-operative pain, post-operative complications and wound healing

Specific Objective:

- To know more about hemorrhoids disease scenario in Bangladesh
- To know more about effective treatment procedure for hemorrhoids

III. Materials And Methodology Of The Study

It was a comparative study of patients admitted at 250 bedded district Sadar Hospital, Feni, Bangladesh including some other private clinics in same territory from January 2014 to December 2016. Sample size was 54, among them 27 cases of Milligan-Morgan hemorrhoidectomy without sphincterotomy and 27 cases of open hemorrhoidectomy with sphincterotomy. The study defined Inclusion criteria: 1. Age 25-65 years 2. Third-degree hemorrhoids 3. Fourth-degree hemorrhoids 4. Available for scheduled follow up and exclusion criteria are (1) First & second-degree hemorrhoids (2) Patients with medical co-morbidities – Diabetes mellitus, hypertension, ischemic heart disease, asthma, neurological disorder, renal or liver disease etc. (3) H/O anal fissures, perianal fistula, perianal abscess, anal incontinence or rectal prolapsed (4) Previous hemorrhoid surgeries (5) Patients on evaluation seems to have pathological hemorrhoids or coagulopathies (6) Previously treated with sclerotherapy and other modalities for hemorrhoids.

We conducted a conventional comparative study at 250 bedded district Sadar Hospital, Feni, Bangladesh including several other private hospitals in the same territory from January 2014 to December 2016. Patients in the age group of 25-65 years irrespective of gender, who presented in the outpatient department with third and fourth degree hemorrhoids, were included. Patients who were found to have any concomitant parianal pathology such as perianal fissure, perianal fistula, rectal prolapses, incontinence or abscesses were excluded, as well as patients with uncontrolled diabetes mellitus, hypertension, chronic liver or kidney disease, bronchial asthma, coagulopathies, and cardiac illness were also excluded. Using randomized sampling techniques patients were evenly divided into two equal groups. Patients from 1st group underwent open Haemorrhoidectomy and patients from 2nd group open hemorrhoidectomy with Lateral internal sphincterotomy. Postoperative pain was assessed on subsequent OPD visits after 24 hours, 48 hours, one week and four weeks, 2 months, 3 months and 4 months.

IV. Result Of The Study

A total of 54 patients were included in this study with 27 patients in each group. The demographic features of these patients are shown in Table I. The mean age of the patients was 35 ± 12.26 in 1st group and 41.19 ± 11.21 in 2nd group. There were 35 (64.4%) male and 19 (35.1%) female. Forty (80%) patients had confirmed diagnosis of 3rd degree and fourteen (12%) patients had 4th degree hemorrhoids. Severity of pain at different intervals is demonstrated in Table II. There was statistically significant difference in the severity of pain between the patients in two groups ($p \leq 0.05$). None of the patients reported any flatus or fecal incontinence. Table III shows significant association between Open Haemorrhoidectomy and Haemorrhoidectomy with lateral internal sphincterotomy (H+ LIS) for measuring post operative pain scores in different intervals as the p-value is always less than 0.05. Assessment of post-operative pain during follow-up using Visual Analog Scale (Table VI), we observed within two weeks pain difference is statistically significant between two groups after that very lower pain involved in open Haemorrhoidectomy group. Intensity of pain was assessed by Visual analogue scoring (VAS) 0-10 at 48 hours, one week and four weeks post operatively, 0=no pain, 1,2,3= mild pain, 4,5,6=moderate pain, 7,8,9,10=severe pain. Intensity of postoperative pain was compared using different statistics like Mean, Median and SD (Standard Deviation). P value less than 0.05 was considered statistically significant.

Table1: Demographic characteristics of the patients

Variables	Group A (n=27)	Group B(n=27)
Age (Mean & SD)	35.72±12.26	41.19±11.21
Male	18	17
Female	9	10
Grade 3 – Haemorrhoids	21	19
Grade 4 – Haemorrhoids	6	8

Table2. Frequency of pain at 24 hours, 48 hours, 1 weeks, 4 weeks (n=54)

Treatment	Pain in 24 hours				
	No pain	Mild pain	Moderate pain	Severe pain	Total
1 st group: Open haemorrhoidectomy	2	7	14	4	27
2 nd group: Haemorrhoidectomy with LIS	5	9	7	6	27
Treatment	Pain in 48 hours				
	No pain	Mild pain	Moderate pain	Severe pain	Total
1 st group: Open haemorrhoidectomy	1	6	19		27
2 nd group: Haemorrhoidectomy with LIS	13	4	4	7	27
Treatment	Pain in 1 weeks				
	No pain	Mild pain	Moderate pain	Severe pain	Total
1 st group: Open haemorrhoidectomy	7	2	0	18	27
2 nd group: Haemorrhoidectomy with LIS	16	2	0	9	27
Treatment	Pain in 4 weeks				
	No pain	Mild pain	Moderate pain	Severe pain	Total
1 st group: Open haemorrhoidectomy	6	0	1	20	27
2 nd group: Haemorrhoidectomy with LIS	19	0	1	7	27

Table 3: Post operative pain scores in different intervals with p- value (n=54)

Follow-up	Pain	Pain				p- value
		No Pain	Mild	Moderate	Severe	
24 hours	H + LIS	0	0	24(88%)	3(12%)	0.015
	Haemorrhoidectomy	0	0	19(70%)	8(30%)	
48 hours	H + LIS	0	18(66%)	9(33%)	1(4%)	0.001
	Haemorrhoidectomy	0	5(19%)	17(62%)	5(19%)	
10 days	H + LIS	9(33%)	17(63%)	1(4%)	0	0.002
	Haemorrhoidectomy	3(11%)	21(78%)	3(11%)	0	

Haemorrhoidectomy with lateral internal sphincterotomy = H+ LIS

Table 4: Assessment of post-operative pain during follow-up using Visual Analog Scale (n=54)

VAS: Visual analogue scale							
	Group						P-value
	Without Sphincterotomy			With Sphincterotomy			
	Mean	SD	Median	Mean	SD	Median	
POD-1 - Pain	7.15	2.21	6.32	4.01	2.01	3.12	0.10
POD-2 - Pain	4.92	1.21	2.82	1.72	1.17	1.52	0.05
POD-7 - Pain	1.98	0.9	1.98	1.00	0.5	0.97	0.05
2 weeks - Pain	0.18	0.87	1.00	0.21	0.42	0.00	0.02
4 weeks - Pain	0.20	0.49	0.00	0.00	0.00	0.00	NS
2 months - Pain	0.10	0.36	0.00	0.00	0.00	0.00	NS
3 months - Pain	0.06	0.24	0.00	0.00	0.00	0.00	NS
4 months - Pain	0.00	0.00	0.00	0.00	0.00	0.00	NS

POD: Post-operative day, SD: Standard deviation

V. Discussion

A study conducted by DiBella F and Esteinne G finished that internal sphincterotomy proved effective and valid possibility along with hemorrhoidectomy⁶. This combined approach results in relaxation of internal anatomical sphincter and reduce postoperative pain, early wound healing and early recovery. Hemorrhoids is a common disease affecting people of all ages and both sexes. It is calculated that fifty percent of the people older than fifty-year have hemorrhoids symptoms at least one for a period of time. Over the last few years various new surgical procedures are available to treat this disease such as hemorrhoidectomy with Harmonic surgical knife & Ligasure, None of them influenced to be gold standard in terms of efficacy and safety. In line with a recent meta- analysis of the Cochrane Library, conventional hemorrhoidectomy as initial represented by Milligan and Morgan continues to be the most widely used, effective and definitive surgical treatment for patients with symptomatic grade III & IV degree hemorrhoids⁹. Anal canal dilatation was represented by Lord in 1989 , but incidence of uncontrolled harm to the internal sphincter muscle fibers was high leading to fecal incontinence. UN agency gave the idea that post-haemorrhoidectomy pain is due to the spasm of internal sphincter muscle and represented that its division through lateral hemorrhoidectomy wound results in reduced postoperative pain. Many

studies conducted at completely different places described helpful effects of internal sphincterotomy once combined with haemorrhoidectomy. Mukadam M & Masu S expressed that adding of internal sphincterotomy with hemorrhoidectomy is well tolerated by the patient's and will increase the comfort level of the patients¹⁰. The results of this study showed that, the addition of internal sphincterotomy, reduces pain of hemorrhoidectomy as assessed at completely different intervals. Muhammad Waqas Raza et al has also reported according higher results with a combined procedure¹¹. In DK Das's study with fifty patients, one patient developed fecal soiling (lasted for two weeks) and a couple of patients developed temporary inborn reflex incontinence¹². In our study none of the patients developed inborn reflex or unclean incontinence and our results are a unit in keeping with the results of Amoroti and Gluseppe Diana^{13,14}. However the results of this study disagree from study conducted by Khubchandani, UN agency found no distinction in postoperative pain relief in 2 teams treated either by hemorrhoidectomy and internal sphincterotomy or haemorrhoidectomy alone. A similar study conjointly reported the raised incidence of anal incontinence in these patients.

VI. Limitations

Our study is limited by a small sample size. We performed purposive randomization for the situation which we considered a limitation of our study.

VII. Conclusion

Hemorrhoids are one of the oldest diseases known to mankind causing significant discomfort to the patient. The most common clinical presentations being bleeding and mass per rectum. The most common surgical procedure for the treatment of hemorrhoids is Milligan Morgan or open hemorrhoidectomy. Post-operative pain and delayed wound healing is of concern, post-open hemorrhoidectomy, and hence the study was done to compare the above procedure with the addition of internal sphincterotomy, with respect to post-operative pain, post-operative complications and wound healing. The results of the study conclude that post-operative pain, post-operative complications were lesser in open hemorrhoidectomy with internal sphincterotomy, with early wound healing.

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