Original Article

Haemorrhoidectomy with Internal Sphincterotomy: A Useful Method to Relieve Post Operative Pain

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ABSTRACT

OBJECTIVE: This study was designed to compare short term outcome of post operative pain in patients operated for haemorrhoidectomy alone and haemorrhoidectomy with internal sphincterotomy.

METHODOLOGY: This comparative observational study conducted at Liaquat University Hospital Jamshoro during August 2012 to July 2014. One hundred and sixteen patients of 3rd or 4th degree hemorrhoids were enrolled in the study. Patients were divided into two comparable groups. Group A underwent open haemorrhoidectomy along with lateral sphincterotomy whereas group B was operated for open haemorrhoidectomy alone. Postoperative pain was analyzed by using visual analogue score at 24 hours, 48 hours and on 10th post operative day.

RESULTS: Total 116 patients were included in the study. Fifty eight patients in each group. The mean age of the patients was 42± 10.2. Male were 77 (66.4%) and 39 (33.6%) were female. Male to female ration was 2:1. During follow-up periods, patient in group A experienced less postoperative pain as compared to group B (p value is ≤ 0.05) . None of the patient developed flatus or fecal incontinence.

CONCLUSION: Lateral internal sphincterotomy combined with haemorrhoidectomy significantly reduces postoperative pain without increasing morbidity.

KEY WORDS: Open haemorrhoidectomy, postoperative pain, lateral internal sphincterotomy.

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INTRODUCTION

Haemorrhoids are a common pathology of anal canal and defined as the downward displacement of the vascular sub mucosal cushions of anal canal. The usual clinical course of this disease includes: rectal bleeding, prolapse, pruritis ani and if not treated may develop complications.[1,2]

The open haemorrhoidectomy (Milligan Morgan procedure) is a widely used procedure for third and fourth degree haemorrhoids[3] .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 haemorrhoidectomy 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 haemorrhoidectomy especially in young patients with high anal tone[6,7,8]

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 haemorrhoidectomy (IS + H) for the relief of postoperative pain. A study conducted by DiBella F [9], concluded that internal sphincterotomy proved effective and valid option along with haemorrhoidectomy. 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 haemorrhoidectomy is unnecessary and carries the added risk of fecal incontinence (up to 8-30%).[10] 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 haemorrhoidec-

tomy alone and haemorrhoidectomy combined with internal sphincterotomy.

MATERIAL AND METHOD

This prospective observational comparative study conducted during August 2012 to July 2014 at Liaquat University Hospital Jamshoro after approval of institutional research and ethical Committee.

Patients with 3rd and 4th degree hemorrhoids diagnosed on history and proctoscopic examination undergoing haemorrhoidectomy were included in the study. Since increasing age is associated with a decrease in anal tone, patients above 60 years of age were not included in this study. Patients ,with history of any other concomitant bowel disease like inflammatory bowel disease, anal fissure, fistula, malignancy or recurrent hemorrhoids and patients with first and second degree hemorrhoids were excluded from the study.

Informed and written consent was taken from all patients planned for haemorrhoidectomy. Patients were enrolled by using convenient sampling technique, then divided into two groups. All even numbers were enrolled in group A and odd numbers in group B. Group A underwent open haemorrhoidectomy along with lateral sphincterotomy whereas group B was operated for open haemorrhoidectomy alone. All cases were operated by the same surgeon and data was collected on a predesigned proforma. Patients were operated in lithotomy position either under spinal or general anesthesia. Classical open haemorrhoidectomy was performed in all patients. Group A patients underwent an additional procedure of internal sphincterotomy. The internal sphincter was divided up to the dentate line through one of the haemorrhoidectomy wound. Hemostasis was secured & anal packing was inserted. Post operatively all patients were kept on diclofenac sodium 75mg intramuscular twice daily for first 24 hours followed by oral diclofenac sodium 50mg twice a day for 7 days. On the 1st postoperative day, anal packing was removed after sitz bath with luke warm water and Polyfax Plus® was topically applied. All patients were kept on stool softeners & sitz bath twice a day for 10 days.55 (95%) patients in group A were discharged within 48 hours, whereas in group B 48 (83%) patients were discharged within the same time period. The rest were discharged on the following day. On 10th post operative day, digital rectal examination was performed at outpatient department (OPD) for the assessment of pain, anal tone and stenosis.

Intensity of pain was assessed by Visual Analogue Score (VAS) from zero to ten at 24 hours, 48 hours and on 10th postoperative day. The VAS was then interpreted as: 0= no pain, 1-3= mild pain, 4-6= moderate pain, ≥ 6= severe pain. Pain was recorded after mobilization: that is after walking for at least 15 meters followed by 2 minutes of rest. Patients were then asked to mark a point on the line that matches the intensity of pain he or she felt.

The data was analyzed by using Statistical Package for Social Sciences (SPSS version 16.0, Chicago, Illinois, USA). Continuous variables like age and pain score were summarized by mean with standard deviation or median and ranges whenever appropriate. Categorical variables such as gender and grade of hemorrhoids were analyzed as proportions and percentages. Group A & B were compared with each other for severity of postoperative pain by using chi square test. (p- value of less than 0.05 was considered significant). Stratified analysis was done with respect to age, sex & grade of haemorrhoids. Chi square test was applied where applicable.

RESULTS

A total of 116 patients were included in this study with 58 patients in each group. The demographic features of these patients is shown in Table I. The mean age of the patients was 42± 10.2. There were 77 (66.4%) male and 39 (33.6%) female. Male to female ratio was 2:1. Seventy two (62%) patients had confirmed diagnosis of 3rd degree and 44 (38%) patients had 4th degree haemorrhoids.

Severity of pain at different intervals are demonstrated in Table II. There was statistically significant difference in the severity of pain between the patients in two groups (p≤ 0.05). None of the patients reported any flatus or fecal incontinence.

TABLE I: DEMOGRAPHIC DATA OF THE STUDY POPULATION (n=116)

Variable	Group A n = 58	Group B n = 58
Age (mean and SD)	39.72±10.26	44.19±10.21
Male	43 (74%)	34 (58.5%)
Female	15 (26%)	24 (41.5%)
Grade 3 – Hemorrhoids	38 (65.5%)	34 (58.5%)
Grade 4 – Hemorrhoids	20 (34.5%)	24 (41.5%)

TABLE II: POST OPERATIVE PAIN SCORE AT DIFFERENT INTERVALS (n=116)
Group A= 58 Group B= 58

Follow up		Pain				P Value
		No Pain	Mild	Moderate	Severe	
24 hours	H + LIS	0	0	49 (84.4%)	9 (15.5%)	0.015
	Haemorrhoidectomy	0	0	38 (65.5%)	20 (34.4%)	
48 hours	H + LIS	0	37 (63.7%)	18 (31.0%)	3 (5.1%)	<0.001
	Haemorrhoidectomy	0	15 (25.8%)	33 (56.8%)	10 (17.2%)	
10 days	H + LIS	21(36.2%)	35 (60.3%)	2 (3.44%)	0	0.002
	Haemorrhoidectomy	7 (12%)	42 (72.4%)	9 (15.5%)	0	

Haemorrhoidectomy with lateral internal sphincterotomy = H+ LIS

DISCUSSION

Haemorrhoids is a common disease affecting people of all ages and both sexes. It is estimated that 50% of the people older than 50 years have haemorrhoids symptoms at least for a period of time [11]. Over the last few years various new surgical procedures are available to treat this disease such as haemorrhoidectomy with Harmonic scalpel & Ligasure, Doppler guided haemorrhoidal artery ligation and stapled haemorrhoidectomy. None of them prove to be gold standard in terms of efficacy and safety. According to a recent meta- analysis of the Cochrane Library [12,13] conventional haemorrhoidectomy as first described by Milligan and Morgan is still the most widely used, effective and definitive surgical treatment for patients with symptomatic grade III & IV degree haemorrhoids. However this procedure is also associated with significant post operative pain & bleeding. The exact cause of post operative pain after open haemorrhoidectomy is still not known but spasm of the internal sphincter is one of the causative factor [6,7,8]. Other potential contributing factors are anal packing, urinary retention, post operative wound edema and inflammation. Various anorectal manometric studies have shown that these patients have pre operative high sphincteric tone which becomes exaggerated after surgery. Various clinical trials have been done to decrease the sphincter tone. Anal canal dilatation was described by Lord in 1989[14] ,but incidence of uncontrolled damage to the internal sphincter fibers was high resulting in fecal incontinence. Introduction of reversible chemical sphincterotomy by topical nitroglycerine and calcium channel blockers do not seem to be attractive options because of severe headache, quantity of cream applied, local skin thickness and quantum of tissue inflammation. These all are the important factors that explain variable response in postoperative pain relief.

Eisenhammer was the first surgeon, who gave the idea that post-haemorrhoidectomy pain is due to the spasm of internal sphincter and described that its division through lateral haemorrhoidectomy wound results in decreased post operative pain[15]. Several studies conducted at different places reported beneficial effects of internal sphincterotomy when combined with haemorrhoidectomy. Kenlos I et al conducted a prospective randomized trial between two groups to evaluate the postoperative course in 78 patients. The results showed significant difference in the pain score and the analgesic requirement between the two groups. Mukadam M & Masu S [16] stated that adding of internal sphincterotomy with haemorrhoidectomy is well tolerated by the patients and increases the comfort level of the patients.

The results of this study showed that, the addition of internal sphincterotomy, reduces pain of haemorrhoidectomy as assessed at different intervals. Muhammad Waqas Raza et al[17] have also reported better results with a combined procedure. In DK Das's study[18] with 50 patients, one patient developed fecal soiling (lasted for 2 weeks) and 2 patients developed temporary flatus incontinence. In our study none of the patient developed flatus or fecal incontinence. Our results are consistent with the results of Amoroti[19] and Gluseppe Diana[20].

However the results of this study differ from study conducted by Khubchandani, who found no difference in post operative pain relief in two groups treated either by haemorrhoidectomy and internal sphincterotomy or haemorrhoidectomy alone. The same study also reported the increased incidence of anal incontinence in these patients. Moreira Junior[21] conducted the

identical clinical trial in 20 patients, reported the similar results related to postoperative pain with added risk of incontinence, however the sample size was very small.

Our study is limited by a small sample size and randomization was not done.

CONCLUSION

The addition of lateral internal sphincterotomy to open haemorrhoidectomy seems to have a positive effect on reducing the postoperative pain without causing the continence problem.

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