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Outcomes after Hemorrhoidectomy with or Without Lateral Sphincterotomy: An Observational Study

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ABSTRACT

Objective: Hemorrhoids are a common human disease for which the best option available for the surgical management has remained conventional open hemorrhoidectomy. The most common complication of open hemorrhoidectomy is postoperative pain caused by spasm of the internal sphincter. Lateral sphincterotomy is a commonly performed procedure for relieving spasm and pain. The main aim of our study was to compare the postoperative outcomes in patients treated with open hemorrhoidectomy and open hemorrhoidectomy with internal sphincterotomy.

Methodology: This observational study was conducted in surgical unit 1 of Ghulam Mohammad Mahar Medical College (GMMC), Sukkur. Duration of the study was about 2 years from Nov 2016 to Dec 2018. The ethical approval was taken from Institutional Research and Ethical Committee of medical college of Sukkur. A total of 120 patients were chosen for this study.. The patients were categorized into group A and B. In Group A, only conventional open hemorrhoidectomy was performed. In Group B in addition to conventional open hemorrhoidectomy received lateral internal sphincterotomy

Results: A total of 120 patients were included in the study with. Mean age of 35.76 ± 11.33 years and 35.38 ± 12.20 years in group A and B respectively. Pain was assessed at 2nd post-operative day (POD-2). In group A, moderate pain exist in 35(58.3%) cases while in group B, mild pain was found in 39(65.0%) cases with the (p<0.001) that was significant. Table III showed only 9(15.0%) cases had per rectal bleeding at 1st POD in group A while only 3(5.0%) cases had per rectal bleeding at 1st POD in group B with the (p=0.068) that was insignificant.

Conclusion: This study concluded that in conventional open hemorrhoidectomy for 2nd, 3rd and 4th degree hemorrhoids addition of lateral sphincterotomy is an effective, convenient, and simple way to reduce the postoperative pain and postoperative complications like anorectal bleeding and improves wound healing.

Key words: Hemorrhoids, Hemorrhoidectomy, Lateral sphincterotomy

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INTRODUCTION

Hemorrhoids are also called piles which refer to swollen and inflamed veins in rectum or anus. They appear as swellings that comprise distended blood vessels which are located inside or around the rectum and anus [1]. There are two types of hemorrhoids; external and internal. It can be distinguished by its location with regard to the pectinate line. Internal hemorrhoids, which is presented inside the rectum, stool) [2]. Internal hemorrhoids are categorized on the basis of degree of hemorrhoids [3].

1st degree hemorrhoids, No prolapsed, but blood vessels are obvious. 2nd degree hemorrhoids, prolapsed, but naturally reduced.

3rd degree hemorrhoids, prolapse, but reduced manually and 4th degree hemorrhoids, remain prolapsed and unable to reduce manually.

In the general population, up to 40% prevalence of hemorrhoids was found during screening colonoscopy [4].

Hemorrhoidectomy is the most appropriate treatment for high degree hemorrhides exhibited along with symptoms but it has recurrence rate of 2% medium-term and a 10% long-term [5].

Piles are produced due to an increased pressure in lower rectum. This may be caused by the pressure created during defecation, and constant constipation or diarrhoea.

The most common symptoms of hemorrhoids or piles aretenderness, inflammation, itching, blood loss, and uneasiness in the anus [6]. Many patients of hemorrhoids or piles do not take care as soon as possible after existence of its symptoms. This trend may be formed because of feeling of embarrassment of the affected individual and due to the economic reason [7]. It has also been assumed that the risk factors which can lead to piles are age, fatness, distress, and history of severe constipation, pregnancy, intake of low fibre diet and spicy foods and use of alcohol [8,9].

Diagnosis of hemorrhoids can be carried out by physical examination [10]. Physical inspection might diagnose external or prolapsed hemorrhoids. Moreover, internal hemorrhoids are mostly painless. Visual validation of internal hemorrhoids can be analyzed by Anoscopy, Colonoscopy or Sigmoidoscopy. It has been found that by using fibre foods, drinking liquids to retain hydration, and NSAIDs can decrease the pain [11].

Hemorrhoidectomy is the best possible treatment modality for the 2nd, 3rd and 4th degree of hemorrhoids. The leading disadvantage of surgery is the existence of pain in the first postoperative week. The main reason of this pain is due to the contraction of the internal sphincter particularly in young patients because of higher anal tone [12].

The aim of this study was to access the comparison of pain and complications after hemorrhoidectomy with or without lateral sphincterotomy.

METHODOLOGY

This cross-sectional prospective case control study was conducted in surgical unit 1 of Ghulam Mohammad Mahar Medical College (GMMC), Sukkur. The ethical approval was taken from Institutional research and ethical committee of medical college of Sukkur. Duration of the study is about 2 years from Nov 2016 to Dec 2018. An informed permission was taken from the patients and guardians. A total of 120 patients were chosen for this study in which 77 were males and 43 were females. All patients with grade 2, 3 and 4 hemorrhoids admitted in surgical unit 1 through OPD of surgical department GMMC Sukkur.

In this study, patients of age between 18 to 50 years with 2nd, 3rd and 4th degree hemorrhoids were included. Female and male patients both were enrolled for this purpose. On the other hand, Exclusion criteria was 1st degree hemorrhoids, Patients with associated anal fissure, Patients who had undergone prior intervention for hemorrhoids, Fecal incontinence, Patients already treated with Sclerotherapy for hemorrhoids, History and clinical examination of patient who were not fit for anesthesia, uncontrolled diabetes mellitus, hypertension, chronic liver disease and coagulopathies were also not enrolled.

The patients were randomized into group A and B. In Group A, only conventional open hemorrhoidectomy was performed. In Group B in addition to conventional open sphincterotomy. All patients admitted under went standard screening for anesthesia fitness, patients prepared for surgery after managing standard pre-operative protocols, and then operated under spinal anesthesia. Post-operative pain was observed on subsequent visits after 48 hours, one week and 4 weeks post operatively, the pain was measured by visual analog scoring (VAS) described as : 0-no pain, at score 1 to 3-mild pain, score 4 to 6–moderate pain, at score 7 to 10–severe pain.

Data was analyzed using Statistical Package for the Social Sciences (SPSS) version 20 and presented in the table by calculating mean standard mean and deviation for quantitative data and frequency and percentages for qualitative data. Intensity of postoperative pain was compared using chi-square test, ($p<0.05$) was taken as significant.

RESULTS

Table 1 shows 120 patients were included in the study. In group A, 60 patients out of 120 underwent only hemorrhoidectomy and in group B, 60 were gone for hemorrhoidectomy with LIS under General or Spinal Anesthesia. Mean age of patients was 35.76 ± 11.33 years and 35.38 ± 12.20 years in group A and B respectively. In group A 34(56.7%) were males and 26(43.3%) were females while in group B 43(71.7%) were males and 17(28.3%) were females with an insignificant difference. ($p=0.087$)In group A, 8(13.3%) in 2nd degree, 29(48.3%) in 3rd degree, 23(38.3%) was found in 4th degree hemorrhides. In group B, 13(21.7%) in 2nd degree, 31(51.7%) in 3rd degree, 16(26.7%) was found in 4th degree hemorrhides with an insignificant difference ($p=0.285$).

In Table 2, Pain was assessed at 2nd post-operative day (POD-2). In group A, moderate pain exist in 35(58.3%) cases while in group B, mild pain was found in 39(65.0%) cases with the significant difference ($p<0.001$). At 7th POD, In group A, mild pain exist in 55(91.7%) cases while in group B, no pain was found in 39(65.0%) cases but 15(25.0%) cases had mild pain with the significant difference ($p<0.001$). At 30th POD, in group A, no pain exist in 55(91.7%) cases while in group B, no pain was found in 60(100.0%) cases with the significant difference ($p=0.022$).

Table 3 showed only 9(15.0%) cases had per rectal bleeding at 1st POD in group A while only 3(5.0%) cases had per rectal bleeding at 1st POD in group B with an insignificant difference ($p= 0.068$). 7(11.7%) cases had per rectal bleeding at 48 hours in group A while only 1(1.7%) cases had per rectal bleeding in group B with the significant difference ($p= 0.028$). only 7(11.7%) cases had per rectal bleeding at 1st week in group A, with the significant difference ($p= 0.006$).

Only 3(5.0%) cases had per rectal bleeding at 1st month in group A, with the significant difference ($p= 0.006$). In group A, 51(85.0%) cases had completed post-operative wound healing in 2 weeks while in group B, 60(100.0%)

had completed post-operative wound healing in 2 weeks with the significant difference (p=0.002).

Table1: General description of patients of hemorrhoids (n=120).

Variable		Hemorrhoidectomy	Hemorrhoidectomy + LIS	P-value
		Mean ± SD n (%) Group A	Mean ± SD n (%) Group B	
Age (years)		35.76 ± 11.33	35.38 ± 12.20	---
Gender	Male	34(56.7%)	43(71.7%)	0.087
	Female	26(43.3%)	17(28.3%)	
Degree of hemorrhoid	2nd	8(13.3%)	13(21.7%)	0.285
	3rd	29(48.3%)	31(51.7%)	
	4th	23(38.3%)	16(26.7%)	

Table 2: Severity of pain at 48 hours, 1st week and 4th week.

Variable			Hemorrhoidectomy n(%)	Hemorrhoidectomy + LIS n(%)	P-value
Pain Severity	2nd post-operative day	Mild	18(30.0%)	39(65.0%)	<0.001
		moderate	35(58.3%)	20(33.3%)	
		Severe	7(11.7%)	1(1.7%)	
	7thPOD	No pain	0(0.0%)	40(66.7%)	<0.001
		Mild	55(91.7%)	15(25.0%)	
		Moderate	3(5.0%)	5(8.3%)	
		Severe pain	2(3.3%)	0(0.0%)	
	30thPOD	No pain	55(91.7%)	60(100.0%)	0.022
		Mild	5(8.3%)	0(0.0%)	

Table 3: Comparison of postoperative complications and wound healing.

Variable		Hemorrhoidectomy	Hemorrhoidectomy + LIS	P-value
		n(%)	n(%)	
Per rectal bleed at 1stPOD	Yes	9(15.0%)	3(5.0%)	0.068
	No	51(85.0%)	57(95.0%)	
Per rectal bleed at 48hours	Yes	7(11.7%)	1(1.7%)	0.028
	No	53(88.3%)	59(98.3%)	
Per rectal bleed at 1stweek	Yes	7(11.7%)	0(0.0%)	0.006
	No	53(88.3%)	60(100.0%)	
Per rectal bleed at 1stmonth	Yes	3(5.0%)	0(0.0%)	0.079
	No	57(95.0%)	60(100.0%)	
Per rectal bleed at 2ndmonth	Yes	0(0.0%)	0(0.0%)	---
	No	60(100.0%)	60(100.0%)	
Complete post-operative wound healing @2weeks	Yes	51(85.0%)	60(100.0%)	0.002
	No	9(15.0%)	0(0.0%)	
Complete post-operative wound healing @ 4weeks	Yes	60(100.0%)	60(100.0%)	---
	No	0(0.0%)	0(0.0%)	

DISCUSSION

Haemorrhoid is one of the ancient diseases in the world since the beginning of history [13]. Postoperative pain is frequently accredited to the open hemorrhoidectomy as a bad experience of the surgery. Examination of pain should be a simple while managing acute pain and pain as a symptom of trauma or disease. Open hemorrhoidectomy remains the main operating Therapy for hemorrhoids globally [14]. Postoperative of conventional open hemorrhoidectomy is very painful; therefore, this has become the main drawback of hemorrhoidectomy, especially in the 1st postoperative week [15]. High anal canal pressure, specifically in the younger patients was acknowledged in studies related to patients with hemorrhoids [16]. Comparatively, Anal Canal Pressure remains mostly raised in young patients due to contraction of internal sphincter than the old age. Postoperative pain is also attributed by the contraction of the internal sphincter that exists after hemorrhoidectomy. In our study, post-operative pain was found in 35(58.3%) cases in group A with the ($p<0.001$) that was statistically significant. On comparing the complications in the post-operative period, in both groups, it was found that patients undergoing hemorrhoidectomy without sphincterotomy had bleeding per rectum till 1 week in 7(11.7%) cases with statistically significant difference($p=0.006$).

Furthermore, in our study, no patients experienced complications like anal stenosis, whereas in the study conducted by Das et al. [17] proved that a few patients were exhibited flatus incontinence found in without sphincterotomy group while some patient had anal stenosis were found in with sphincterotomy group.

Das et al. evaluated 50 patients their ages between 24 and 50 years were treated for 3rd and 4th degree hemorrhoids. They revealed that internal sphincterotomy carefully added to hemorrhoidectomy, particularly for the young patients in order to decrease the excruciating pain after surgery and allied complications.

A study by Galizia et al. [18] assessed 42 patients with prolapsed pile. The study established that the hemorrhoidectomy with lateral internal sphincterotomy appears to improve postoperative course related to symptoms of postoperative pain and connected complications. Similarly, consistency of this study was found with our study in connection with the above said comparison of complications.

Kanellos et al. [19] assessed 78 patients with 4th degree hemorrhoids. As a result after the first bowel movement, there were 3 (7.7%) patients had no pain in the internal sphincterotomy group, but in contrast, our study does not show any experience of pain in first bowel movement.

Diana et al. [20] studied 699 patients with 2nd, 3rd, and 4th degree hemorrhoids and showed that lateral internal sphincterotomy decreases pain in the first postoperative period. But in our study, pain gradually decreases with the passage of time showed 35(58.3%) cases had moderate pain in hemorrhoidectomy group with the significant difference ($p<0.001$) whereas in hemorrhoidectomy with lateral internal sphincterotomy had mild pain in 39(65.0%) cases.

The qualitative approach of our study has assured that we have sampled extensive range of patients undergoing hemorrhoidectomy. However, the study might not be immune from observer and practice bias.

CONCLUSION

This study concluded that in hemorrhoidectomy with lateral sphincterotomy for 2nd, 3rd, and 4th degree hemorrhoids, exhibited less postoperative pain and complications along with early wound healing in comparison with hemorrhoidectomy without lateral sphincterotomy.

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