

Comparative study of hemorrhoidectomy with or without lateral internal sphincterotomy

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Abstract

This study was done for comparative assessment of outcomes between hemorrhoidectomy with or without lateral internal sphincterotomy regarding pain, bleeding, urinary retention, and wound healing.

Method: 96 patients with non resolving grade ii, grade iii, and grade iv internal/interno-external hemorrhoids were included in study and were divided in two groups by random sampling. In first group (group A), patients were treated by Milligan Morgan technique and second group (group B) by Milligan Morgan technique plus lateral internal sphincterotomy. Type of anesthesia and other factors were kept uniform. Comparative assessments were done regarding postoperative pain, retention of urine, bleeding, and wound healing between both groups at 24 hours, 48 hours, seven days, and one month. Results were compared using chi square test.

Result: Patients in group B experienced significantly lesser postoperative pain, constipation and earlier wound healing. There was no significant difference in incidences of bleeding and retention of urine.

Conclusion: Lateral internal sphincterotomy may be added while doing open hemorrhoidectomy when feasible.

Key words: lateral internal sphincterotomy, hemorrhoidectomy

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I. Introduction

The causes of haemorrhoidal disease are unknown, but the most consistent physiological abnormality is increased maximum resting anal pressure (1). Postoperative pain is almost a constant feature after hemorrhoidectomy, which is contributed mainly by spasm of internal anal sphincter. Lateral internal sphincterotomy is a procedure in which internal anal sphincter is divided in right or left direction. It decreases the spasm of internal sphincter therefore it leads to decreased pain postoperatively. (2)

In a few controlled trials it has been observed that hemorrhoidectomy combined with lateral internal sphincterotomy leads to decreased postoperative pain and early wound healing.(3) Eisenhammer postulated that post hemorrhoidectomy pain is due to spasm of the internal sphincter and described that its division is certainly an effective way to lessen postoperative pain(4). Many investigators have reported abnormal anal sphincter manometric findings in patients with hemorrhoids (5). Various methods have been devised to decrease the sphincter tone. Anal canal dilatation was described by lord in 1989(6), but incidence of uncontrolled damage to the internal sphincter fibers was high. Some researchers have reported limited ability of sphincterotomy to relieve postoperative pain and increased incidence of complications, such as bleeding and fecal incontinence. Treatment options for symptomatic hemorrhoids range from non-operative medical interventions and outpatient based procedures to surgery.

The most commonly used method for treating third-degree and fourth-degree enlarged hemorrhoid is Milligan-Morgan open hemorrhoidectomy procedure. Complications accompanying open hemorrhoidectomy are significant postoperative pain, urinary retention, bleeding, incontinence, stenosis and delayed wound healing,

II. Materials And Methods

It was a prospective study involving 96 patients treated at NMCH Sasaram, during may 2017 to march 2021 .The patients were divided in two equal groups A and B using randomized sampling techniques, each having 48 patients. Group A underwent milligan-morgan hemorrhoidectomy without sphincterotomy and group B underwent hemorrhoidectomy with sphincterotomy. Patients selected for study were of ages between 18 to 60 years and were diagnosed to have second-degree hemorrhoids refractory to medical treatment, third-degree hemorrhoids, and fourth-degree hemorrhoids. For exclusion, following criteria were followed-

1. first- and second-degree hemorrhoids, managed by medical line of the treatment
2. Patients with medical co-morbidities - diabetes mellitus, hypertension, isc8-hemic heart disease, asthma

3. H/o anal fissures/anal fistula/perianal abscess
 4. Previous hemorrhoidal surgeries
 5. Fecal incontinence
 6. Previously treated with sclerotherapy and other modalities for hemorrhoid
- In the post-operative period, complaints of urinary retention, bleeding, postoperative pain, difficulty in bowel movement and delayed wound healing were assessed thoroughly.

The severity of post-operative pain was assessed by using visual analogue scale and requirement of analgesics for pain relief. By using visual analogue scale, severity of pain was scored on a scale of 0 to 100 and categorized as: no pain (0-4), mild pain (5-44), moderate pain (45-74) and severe pain (75-100). Pain categorization according to analgesic requirement was defined as mild if 2-4 analgesics were administered, moderate if number of analgesics administered were 4-6, and severe if more than 6 analgesics were administered in 48 h.

The incidence of urinary retention following surgery was assessed by considering the number of patients requiring catheterization to relieve retention

The amount of post operative bleeding was observed and assessed subjectively. It was grouped as the minimal when bleeding was confined, moderate when visible bleeding was seen on dressing or clothing and needed to be changed every six hours, and severe if the amount of bleeding was same or more than preoperative state.

III. Result

Pain

follow up	group	no pain	mild	mod	severe
24 hour	A	0	4	25	19
	B	0	36	8	4
48 hour	A	0	11	24	13
	B	2	36	7	3
7 days	A	4	16	22	6
	B	17	22	4	1
1 month	A	18	28	2	0
	B	42	6	0	0

TABLE 1

Complain of pain and their severity were assessed in both groups and it was noted that patients who underwent sphincterotomy also had mostly mild pain in first 48 hours. Very few of them had severe pain as compared to those in group A and the difference was statistically significant. At the end of first week most of the patients in group A had mild to moderate pain while those in group B had only mild or no pain. At the end of month most patients in group B were free of pain while those in group A were still having mild to moderate pain.

Bleeding

Table 2

follow up	group	no bleeding / minimal bleeding	mild	moderate	severe
first 48 hour	a	8	30	9	1
	b	7	28	11	2
2-7 days	a	12	30	6	0
	b	13	31	4	0
1-4 week	a	40	8	0	0
	b	46	2	0	0

Post operative bleeding especially during defecation was complained by majority of patients in both groups. Though it was observed slightly more in the group B patients till the end of first week but the differences were not statistically significant. At the end of month few patients in both groups were still having mild bleeding but the difference was not statistically significant.

Retention of urine

Table 3

follow up	group	retention	no retention
first 24 hour	A	14	34
	B	16	32
after 24 hour	A	0	48
	B	0	48

Retention of urine was observed in few patients from both the groups but the difference was not statically significant.

Constipation

TABLE 4

follow up	group	yes	no
first 48 hours	a	40	8
	b	30	18
2- 14 days	a	32	16
	b	8	40
2-4 week	a	18	30
	b	2	46

Constipation was complained by majority of patients from both groups during first 48 hours. Though it was complained more often by patients in group B but the difference was not statistically significant. Between 2 to 14 days greater number of patients from group A had constipation as compared to the patients from group B and the difference was statistically significant. After 2 weeks majority of patients from both groups had normal bowel function.

IV. Discussion

Open hemorrhoidectomy is the gold standard operation against which the outcomes of the other treatment strategies are compared. However, postoperative pain remains a dreadful complication for some patients. Ascanelli concluded in a study that open hemorrhoidectomy was associated with higher postoperative pain scores. A variety of surgical techniques and medicines are available for decreasing the post hemorrhoidectomy pain but none of them proved to be superior.

Studies on measurement of anal sphincter pressure show that the basal anal pressure is significantly higher in patients with hemorrhoids and lateral internal sphincterotomy is more useful in patients with higher anal pressure. Several authors reported that significant reduction of post hemorrhoidectomy pain and associated complications can be achieved by adding internal sphincterotomy to hemorrhoidectomy. the mechanism of action of lateral anal sphincterotomy on reducing the post operative pain following hemorrhoidectomy is still not yet confirmed but it has been shown to reduce the anal sphincter tone causing the laxity of skin outside the perianal tissues leading to decrease in nerve stimulation and thereby decreasing the post operative pain. Di Bella and Estienne in 1990 suggested that internal sphincterotomy reduced pain by reduction of sphincter tonicity (7). A study by Chauhan a. et al revealed markedly reduced postoperative pain in patients who underwent hemorrhoidectomy with lateral internal sphincterotomy. Urinary retention is one of the most common complications following anorectal surgery with rates varying between 3 and 50% with most studies reporting a rate around 15% (8) .Lateral internal sphincterotomy at the end of open hemorrhoidectomy does not increase the operative time significantly but has added advantages as shown in various studies. Das et al. and Taha reported a shorter hospital stay for patients who underwent open hemorrhoidectomy with lateral sphincterotomy (9), (10). Postoperative bleeding is a particularly important complication in treating hemorrhoids due to its frequency. For open hemorrhoidectomy rates of clinically significant hemorrhage has been reported in the range of 0.3 to 6%, with an average of around 2% (11). In our study, all patients experienced some amount of bleed but in most of them it was confined and those who had moderate bleeding were improved by 7th post-operative day. In our follow up of patients we did not encounter any anal stenosis or incontinence.

V. Conclusion

Lateral internal sphincterotomy is an easy, simple procedure that can be carried out routinely with open hemorrhoidectomy without much prolongation of duration of surgery. Most of the hemorrhoids patients have increased anal pressure and spasm of internal sphincter is one of the main mechanisms in producing post hemorrhoidectomy pain. Hence lateral internal sphincterotomy which reduces the sphincter tone helps in alleviating the pain in significant number of cases. The chances of increase in complications by addition of lateral internal sphincterotomy are not so more than that when only hemorrhoidectomy is done. Considering the overall advantages of lateral internal sphincterotomy, it should be added to the hemorrhoidectomy procedures wherever feasible.

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