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ORIGINAL RESEARCH

Comparison between Miligan Morgan (Open) Hemorroidectomy with Lateral Internal Sphincterectomy (LIS) & Without LIS

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Abstract

Background: Hemorrhoids are a common anorectal complaint that is considered as benign condition. Hemorrhoids seem to affect people equally between genders and typically occur during middle age, though younger patients are not uncommon. Although the exact incidence in worldwide remains unknown, a study have revealed an overall prevalence of 39% for all grades of hemorrhoids. The main aim of this study was to compare the postoperative pain in two groups of patients treated with open hemorrhoidectomy and open hemorrhoidectomy with lateral internalsphincterotomy. However, other related complications were also noted and included in the result.

Methods: This is a prospective and observational study carried out at Maharani Laxmi Bai Medical College, Jhansi, Uttar Pradesh and enrolled patients over 20 years of age operated for MilliganMorgan from august 2021 to august 2022. During this period 50 patients were operated for miligan morgan haemorrhoidectomy with lateral internal sphincterotomy (LIS) {Group A} & rest 50 patients were operated for miligan morgan haemorrhoidectomy without lateral internal sphincterotomy{Group B}

Result: The average follow-up for both groups was 6 months. Pain relief was observed in 37 (74%) in group A and 28 (56%) in group B patients by the end of 1 week and 47 (94%) in group A and 38(76%) in group B patients by the end of 1 month. One patient in group B took about one and half months but pain got relieved.

By one month, healing of the ulcer was observed in 48 (96%) and 33 (66%) in group A and B respectively.By the end of 3 months, minor incontinence including mucous discharge was observed in 3(6%) and 1 (2%) patients in group A and B respectively and the difference was insignificant.

Conclusion: Miligan -morgan hemorroidectomy with lateral internal sphincterectomy is more effective than Miligan -morgan hemorroidectomy without lateral internal sphincterectomy in relieving long term pain & in other complication.

Introduction

Hemorrhoids are a common anorectal complaint that is often considered as benign. Hemorrhoids seem to affect people equally between genders and typically occur during middle age, though younger patients are not uncommon. Although the exact incidence in worldwide remains unknown, a study have revealed an overall prevalence of 39% for grades I to IV hemorrhoids classified according to the international classification of hemorrhoids in the current adult population[1].

Hemorrhoids are cushions of submucosal vascular tissue located in the anal canal, starting proximal to the dentate line[2] and symptomatic hemorrhoids are one of the most common perianal diseases.

The main drawback of hemorrhoidectomy is the uncomfortable pain in the first postoperative week[3].

The prime cause of unpleasant post-hemorrhoidectomy pain is due to the spasm of the internal sphincter that is exposed after open hemorrhoidectomy, especially in youngerpatients with higher anal tone.[4,5,6]

Review of literature showed that various methods have been tried in order to reduce posthemorrhoidectomy pain[4]. Over the time, Internal Sphincterotomy was proved as one of thevalid addition to the hemorrhoidectomy

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for a better postoperative period in terms of lesspostoperative pain and less complications.[1,7] Internal Sphincterotomy reduces post-hemorrhoidectomy pain by abolishing the hypertonicity (spasm/pressure) of the internal analsphincter and subsequently reduces the related post hemorrhoidectomy complications aswell.[7,8,9]
The main aim of this study was to compare the postoperative pain in two groups of patients treated with open hemorrhoidectomy and open hemorrhoidectomy with internal sphincterotomy. However, other related complications were also noted and included in the results.

Materials & methods
This is a prospective and observational study carried out at Maharani Laxmi Bai Medical College, Jhansi, Uttar Pradesh and enrolled patients over 20 years of age operated for Milligan Morgan from august 2021 to august 2022. During this period 50 patients were operated for miligan morgan haemorrhoidectomy with lateral internal sphincterotomy (LIS) {Group A} & rest 50 patients were operated for miligan morgam haemorrhoidectomy without lateral internal sphincterotomy {Group B}. All the patients had previously received one or more sessions of conservative treatment at various clinics outside and had recurrence of symptoms and signs of internal & external hemorroids. The data were recorded at admission for surgery. Approval for the study was obtained from the ethical committee of the college.

Exclusion criteria
Patients who had suspected or proven inflammatory bowel disease, fistula, pregnancy, and previous anal surgeries & patients over 50 years of age were excluded from the study

The inclusion criteria were as follows:
(1) meet the criteria of II,III/IV degree hemorrhoids;
(2) aged 20 years old;
(3) no history of rectal or anal surgery;
(4) informed written consent was obtained from patients in person or by legal guardian.
Before the procedure, all patients underwent proctoscopy

Surgical procedure
Study participants (Total 100) were divided into two groups. 50 patients were operated for miligan morgan haemorrhoidectomy with lateral internal sphincterotomy (LIS) & rest 50 patients were operated for miligan morgan haemorrhoidectomy without lateral internal sphincterotomy.

Miligan morgan haemorrhoidectomy
The operation was performed in the following order. (1) The anus was fully dilated under spinal anaesthesia in lithotomy position. After making an incision, the hemorrhoid nucleus of external hemorrhoids was carefully stripped using a V-shaped incision at the interface between the hemorrhoid mucosa and the skin. (2) Internal hemorrhoids were continuously stripped along the surface of the internal sphincter to the dentate line up to the top of the hemorrhoids, which were clamped and sutured at the root of the mucosa. (3) Hemorrhoids were excised at a distance of 0.3–0.5 cm from the ligation line, and the procedure ended after sufficient hemostasis was achieved. Postoperative management was the same for both groups.

Lateral Internal sphincterotomy
A LIS with an open method was applied to patients in the lithotomy position. The internal sphincter was separated from the mucosa just under the dentate line; the distal part of the sphincter was dissected and cut with a Number 11 surgical blade was passed in the groove in left posterolateral aspect of the length of cut was about 1 cm. As the sphincter fibers were divided, a "sudden give" could be felt. Also the division was confirmed by palpation of the defect in the sphincter at the site of division.
All the patients received preoperative ceftriaxone 1gm and metronidazole 400mg intravenously. Postoperatively they were given oral antibiotics for 5-7 days, laxative for about two to four weeks and sitz bath for about 10 days. All were advised to take high fiber food, more of water and cut down intake of fried and spices foods.
The patients were followed up at 1 week and then at 1 month of surgery. They were interviewed for pain relief, bleeding, mucous discharge and incontinence. Anus was inspected for healing of the ulcer. Patients were asked for pain control and anal continence. Patients who had no complaint by the end of a month of surgery were advised to report in case they develop recurrence of symptoms.
Others who had persistent symptoms, ulcer and complications were further followed up to variable extent of time maximum 9 months.

Statistical analysis

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Data were entered in Microsoft Excel version 2010 and analysed using statistical significance was set to p <0.05.

Results

Follow up record of 100 patients and their results are presented. Fifty eight (58%) patient were male & male to female ratio was 1.38:1. Group A and B included 50 patients in each group.

The mean age was 41.5±5.6 (range: 20-50) years, and there was no significant age difference between the two groups (Table). Bleeding was present in all the 100 (100%) patients and pain in 78 (78%) patients. However, pain was the main presenting symptom in 34 (34%) patients only while in the others bleeding was predominant. 82 (77.5%) patients complained of constipation. Average duration of symptoms was 11.16 ± 12.17 months (range, 1.8-60 months) and the difference between two groups was not significant. No patient had significant intraoperative complication.

Three patients in group LIS complained of pain and some discharge on the fifth post-operative day. He was suspected of having infection based on clinical judgment. It was controlled by switching over the oral antibiotic to intravenous ceftriaxone and metronidazole combination.

The average follow-up was 6 months. Pain relief was observed in 37 (74%) in group A and 28 (56%) in group B patients by the end of 1 week and 47 (94%) in group A and 38 (76%) in group B patients by the end of 1 month. One patient in group B took about one and half months but pain got relieved.

By one month, healing of the ulcer was observed in 48 (96%) and 33 (66%) in group A and B respectively. By the end of 3 months, minor incontinence including mucous discharge was observed in 3(6%) and 1 (2%) patients in group A and B respectively and the difference was insignificant.

True fecal incontinence occurred only in 1(2%) patients in group A and was minor. No patient had major incontinence. A few among these patients who followed up till late, incontinence was found to gradually improve.

Parameter	Group A(n=50)	Group B(N=50)	P-value
Age in years mean (range)	42±5.2	41± 6	-
Male:female	1.30	1.32	-
Duration of symptoms(in months) mean (range)	34± 7	32± 9	-
Pain relief in 1 week,n (%)	37(74%)	28(56%)	0.86
Pain relief in 1 month,n (%)	47(94%)	38(76%)	0.89
Minor incontinenece after I month (%)	3(6%)	5(10%)	0.75
Minor incontinenece after 6 months (%)	1(2%)	3(6%)	0.57
Urinary retention	6(12%)	15(30%)	0.62

Discussion

High anal canal pressure was documented in patients with haemorrhoids[10,11,12], especially in the younger patients. Anal canal pressure remains mostly higher in younger patients due to tight internal sphincter (high tone) than the older people. This tight (over active) sphincter is the prime cause of unpleasant post hemorrhoidectomy pain.[4,5,6,13] Keeping it in mind, in our study, patients above 50 years were not included as low anal tone in these patients can have less post hemorrhoidectomy pain even without internal sphincterotomy.

Anal canal dilatation was described by Lord in 198913, but incidence of uncontrolled damageto the internal sphincter fibres was high8. Nataraj in 1971 proposed internal sphincterotomy is an alternative of anal dilatation14. Subsequently Di Bella and Estienne in 1990 stated that internal sphincterotomy reduce anal pain by reduction of the sphincter tonicity7. Over the decade several authors reported that significant reduction of post hemorrhoidectomy pain and associated complications can be achieved by adding internal sphincterotomy to hemorrhoidectomy. 5 Finally As far et al[15] reported that the routine performance of internal sphincterotomy through one of the hemorrhoidectomy wounds significantly reduces post-hemorrhoidectomy pain and associated complications.

In our study, it was very obvious and statistically significant that the addition of internal sphincterotomy to hemorrhoidectomy, significantly reduced post hemorrhoidectomy pain and other associated complications in comparison to hemorrhoidectomy alone.

Postoperative pain relief was in 37 patients in group A and in 28 in group B after 1 week. After 1 month in pain relief was in 47 patients in group A & in group B it was in 38 patients. (P<0.01). Pain incidence in our data is in line with literature data[16-28] including studies on the use of a stapling device.

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In our experience, the incidence of incontinence was lower than the levels reported by Graviè et al.[24] at check-up after one month (6% vs. 8.8%) and after six months (2% vs. 8.8%) in group A but it was higher in group B (10% in 1 month & 6% in 6 months).
The cases of urinary retention observed in our study was12% in group A, are less than those indicated by Toyonaga T. et al. (21.9%).[29,30] In group B it was 30%.

Conclusion

Miligan -morgan hemorroidectomy with lateral internal sphincterectomy is more effective than Miligan -morgan hemorroidectomy without lateral internal sphincterectomy in relieving long term pain & in other complication.

References

1. Riss S, Weiser FA, Schwameis K, Riss T, Mittlbck M, Steiner G, Stift A. The prevalence of hemorrhoids in adults. *Int J Colorectal Dis.* 2012;**27**(2):215–220. doi: 10.1007/s00384-011-1316-3.
2. V. Lohsiriwat **Approach to hemorrhoids**Curr Gastroenterol Rep, 15 (2013), p. 332
3. Allen-Mersh TG, Mann CV. Open Haemorrhoidectomy (ST Mark's ligation/excision method) In: LP Fielding, *Operative Surgery. Surgery of the colon, Rectum & Anus. Fifth Edition. Butterworth Heinemann Ltd.* 1993; 789-796.
4. Kanellos I, Zacharakis E, Christoforidis E, Angelopoulos S, Kanellos D, Pramateftakis MG, Betsis D. Usefulness of lateral internal sphincterotomy in reducing postoperative pain after open hemorrhoidectomy. *World J. Surg.* 2005; 29(4): 464-468.
5. Khubchandani IT. Internal sphincterotomy with hemorrhoidectomy does not relieve pain: a prospective randomized study. *Dis. Colon Rectum.* 2002; 45: 1452-1457.
6. Wasvary HJ, Hain J, Mosed-Vogel M. et al. Randomized, prospective, double-blind, placebo –controlled trial of effects of nitroglycerine ointment on pain after hemorrhoidectomy. *Dis. Colon Rectum.* 2001; 44: 1069-1073.
7. DiBella F, Esteinne G. Indications for internal medioposterior with anoplasty of lateral sphincterectomy during hemorrhoidectomy. Our experience. *Minerva-Chir.* 1990; 45(6):361-363.
8. Mortensen PE, Olsen J, Pedersen IK, Christiansen J. A randomized study on hemorrhoidectomy combined with anal canal dilatation. *Dis. Colon Rectum.* 1987; 19: 755-757.
9. Eisenhammer S. Internal anal sphincterotomy plus free dilatation versus anal stretch with special criticism of the anal stretch procedure for hemorrhoids: the recommended modern approach to hemorrhoid treatment. *Dis. Colon Rectum.* 1974; 17: 493-522.
10. Schouten WR, van Vroonhoven TJ. Later internal sphincterotomy in the treatment of hemorrhoids. *Dis. Colon Rectum.* 1986; 29: 869-872.
11. Favetta U, Amato A, Interisano A, Pescatori M. Clinical, manometric, and sonographic assessment of the anal canal sphincters: a comperative prospective study. *Int J Colorectal Dis.* 1996; 11: 163-166.
12. Mathai V, Ong BC, Ho YH. Randomised controlled trial of lateral internal sphincterotomy with haemorrhoidectomy. *Br J Surg.* 1996; 83: 380-382.
13. Lord PH. Digital dilatation for hemorrhoids treatment. *Int Surg.* 1989; 74: 144-145.
14. Notaras MJ. The treatment of anal fissure by lateral subcutaneous internal sphincterotomy—a technique and results. *Br J Surg.* 1971; 58: 96-100.
15. Asfar SK, Juma TH, Ala-Edeen T. Hemorrhoidectomy and sphincterotomy. A prospective study comparing the effectiveness of anal stretch and sphincterotomy in reducing pain after hemorrhoidectomy. *Dis. Colon Rectum.* 1988; 31: 181-185.
16. YH Ho, F Sew-Choen, C Tsang, KW Fu. Randomized trial assessing anal sphincter injiuries after stapled haemorrhoidectomy. *Br J Surg.* 2001;**88**:1449–1455. doi: 10.1046/j.0007-1323.2001.01899.x.
17. Cheetham MJ, Mortensen NJM, Nystro PO, Kamm MA, Phillips RKS. Persistent pain and faecal urgency after stapled haemorrhoidectomy. *Lancet.* 2000;**356**:730–733. doi: 10.1016/S0140-6736(00)02632-5.
18. Seow-Choen F. Stapled haemorrhoidectomy: pain or gain. *Br J Surg.* 2001;**88**:1–3. doi: 10.1046/j.1365-2168.2001.01651.x. .
19. Ganio E, Altomare F, Gabrielli F, Milito G, Canuti S. Prospective randomized multicentre trial comparing stapled with open haemorrhoidectomy. *Br J Surg.* 2001;88:669–674. doi: 10.1046/j.0007-1323.2001.01772.x. .
20. Maw A, Eu KW, Sew-Choen F. Retroperitoneal sepsis complicating stapled hemorrhoidectomy. *Dis Colon Rectum.* 2002;45:826–828. doi: 10.1007/s10350-004-6304-z.
21. Ng K-H, Ho KS, Ooi BS, Tang CL, Eu KW. Experience of 3711 stapled haemorrhoidectomy operation. *Br J Surg.* 2006;**93**:226–230. doi: 10.1002/bjs.5214.

ISSN:0975-3583,0976-2833 VOL13,ISSUE07,2022

22. Lan P, Wu X, Zhou X, Wang J, Zhang L. The safety and efficacy of stapled haemorrhoidectomy in the treatment of haemorrhoids: a systematic review and meta-analysis of ten randomised control trial. *Int J Colorectal Dis.* 2006;21:172–178. doi: 10.1007/s00384-005-0786-6.
23. Kanellos I, Zacharakis E, D Kanellos, Pramateftakis MG, Tsachalis T, Betsis D. Long-term results after stapled haemorrhoidopexy for third-degree haemorrhoids. *Tech Coloproctol.* 2006;10:47–4. doi: 10.1007/s10151-006-0250-9.
24. Graviè JF, Lehur PA, Huten N, Papillon M, Fantoli M, Descottes B, Pessaux P, Arnaud JP. Stapled haemorrhoidopexy versus Milligan Morgan haemorrhoidectomy. *Ann Surg.* 2005;242:29–35. doi: 10.1097/01.sla.0000169570.64579.31.
25. Fueglistaler P, Guenin MO, Montali I, Kern B, Peterli R, Von Flüe M, Ackermann C. Long term results after stapled haemorrhoidopexy: high patient satisfaction despite frequent postoperative symptoms. *Dis Colon Rectum.* 2006;50:204–212. doi: 10.1007/s10350-006-0768-y.
26. Lomanto D, Katara AN. Stapled haemorrhoidopexy for prolapsed haemorrhoids: short and long term experience. *Asian J Surg.* 2007;30:29–33.
27. Jayaraman S, Colquhoun PH, Malthaner RA. Stapled haemorrhoidopexy is associated with a higher long-term recurrence rate of internal haemorrhoids compared with conventional excisional haemorrhoid surgery. *Dis Colon Rectum.* 2007;50:1297–305. doi: 10.1007/s10350-007-0308-4.
28. Herold A, Kirsch JJ. Pain after stapled haemorrhoidectomy. *Lancet.* 2000;356:2187. doi: 10.1016/S0140-6736(05)67258-3.
29. Toyonaga T, Matsushima M, Sogawa N, Jiang SF, Matsumura N, Shimojima Y, Tanaka Y, Suzuki K, Masuda J, Tanaka M. Postoperative urinary retention after surgery for benign anorectal disease: potential risk factors and strategy for prevention. *Int J Colorectal Surg.* 2006;21:676–82. doi: 10.1007/s00384-005-0077-2.