

# Comparison of the Severity of Postoperative Pain in Stapled vs Open Milligan Morgan Hemorrhoidectomy for Hemorrhoids

MANZAR ALI, MASOOD UR RAUF KHAN, ALI AKBAR, TAHIR BANDESHAH

## ABSTRACT

**Aim:** To compare the severity of postoperative pain in stapled versus open Milligan Morgan hemorrhoidectomy for hemorrhoids”.

**Study design:** Randomized Controlled Trials (RCT).

**Place and duration of study:** 6 month Department of surgery, Multan Medical and Dental College, Ibne Siena Hospital and Research Institute, Multan

**Methods:** After approval from local ethics committee, one hundred and eighty patients with symptomatic hemorrhoidal disease fulfilling the inclusion criteria selected from out patient department. They were divided into two groups A and B randomly by using computer generated random list having the assigned treatment. The patients in group A operated with Circular stapler and patients in group B operated with the open Milligan-Morgan technique. All the patients monitored for severity of postoperative pain on 1<sup>st</sup> and 2<sup>nd</sup> post operative days.

**Results:** One hundred and eighty patients with haemorrhoids were chosen for the study with mean age of 45.20±9.5 in group A and 44.83±9.7 in group B, with 78 patients shown satisfactory while 12 patients shown unsatisfactory results group A while in group B 21 patients shown satisfactory while 69 patients shown unsatisfactory.

**Conclusions:** Stapled hemorrhoidectomy is associated with less postoperative pain.

**Keywords:** Haemorrhoids, stapled hemorrhoidectomy, open Milligan Morgan hemorrhoidectomy

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## INTRODUCTION

Hemorrhoids are part of normal human anatomy. It has been estimated that 58% of people over 40 years of age have hemorrhoidal disease to some extent<sup>1</sup>. Hemorrhoids are the most prevalent anorectal disorder among adults, and over 90% of patients undergoing sigmoidoscopy or colonoscopy are found to have hemorrhoids of varying degrees. Hemorrhoids are defined as internal or external based on whether they are located above or below the dentate line. Internal hemorrhoids can be classified into 4 grades using the Goligher system<sup>2</sup>. Grade 1, hemorrhoids with bleeding; Grade 2, hemorrhoids with bleeding and protrusion, with spontaneous reduction; Grade 3, hemorrhoids with bleeding and protrusion that require manual reduction; and Grade 4, prolapsed hemorrhoids that cannot be replaced. Nonoperative management is considered for patients with symptoms (anal bleeding or rectal prolapse) and grades 1, 2, and 3 internal hemorrhoids. Treatments include local injection therapy, anal divulsion, elastic band ligation, cryotherapy, infrared and laser photocoagulation, direct application of electrical current, and bipolar coagulation<sup>3,4</sup>. Based on the results of a meta-

analysis, MacRae and McLeod<sup>5</sup> concluded that rubber band ligation should be recommended for Grades 1 to 3 internal hemorrhoids, and that patients treated by this method were less likely to require additional therapies than those treated with local injection therapy or infrared coagulation. Since first introduced in the United States in 1951, rubber band ligation has become the mainstay of treatment for bleeding and prolapsing internal hemorrhoids, and is now a well established, safe, and effective technique<sup>6,7,8</sup>. It has been shown to be substantially better than medication alone in terms of outcome, and is not associated with significant morbidity<sup>9</sup>. Conventional band ligation is performed with rigid anosopic devices with limited maneuverability and a narrow field of view, and no ability to document treatment photographically[5]. These drawbacks can be overcome by using a video-endoscopic system that provides a detailed image of the operative field as well as photographic capability<sup>10</sup>. Our previous studies showed a good result of endoscopic hemorrhoid ligation (EHL) in patients with symptomatic internal hemorrhoids at initial therapy and one year after treatment<sup>11,12</sup>.

Indications for operative treatment of hemorrhoids are not well defined. Most surgeons agree that these include fourth-degree, prolapsed irreducible hemorrhoids, and most third-degree, prolapsing during straining hemorrhoids<sup>13,14,15</sup>. The

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*Department of Surgery, Multan Medical and Dental College, Ibne Siena hospital and research institute Multan*

*Correspondence to Dr. Manzar Ali Asst Prof Email: drmanzar@yahoo.com & drnido\_surgeon@yahoo.com*

operative treatment can also be indicated in hemorrhoids of second degree with mucosal prolapse or recurrent bleeding. In addition, patients who present with acutely thrombosed or strangulated prolapsed hemorrhoids may benefit from emergency hemorrhoidectomy. The vast majority of surgeons perform the hemorrhoidectomy with the open (Milligan-Morgan)<sup>16</sup> or closed (Ferguson) technique. An operative method using a circular stapler was developed recently by Peck, O'Connor, and finally by Longo. The method was based on Thompson's theory of the physiologic role of "anal cushions" and the prolapse of rectal mucosa. This procedure is to avoid the need for wounds in the sensitive perianal area and as a result, has the advantage of significantly reducing the patient's post operative pain<sup>16,17,18</sup> to decrease the blood flow to hemorrhoids and to reset them in their normal position without damaging the sensitive anal canal mucosa in the region of the dentate line. Follow-up on relief of symptoms indicate a similar success rate to that achieved by conventional haemorrhoidectomy<sup>16,19</sup>.

## MATERIAL AND METHOD:

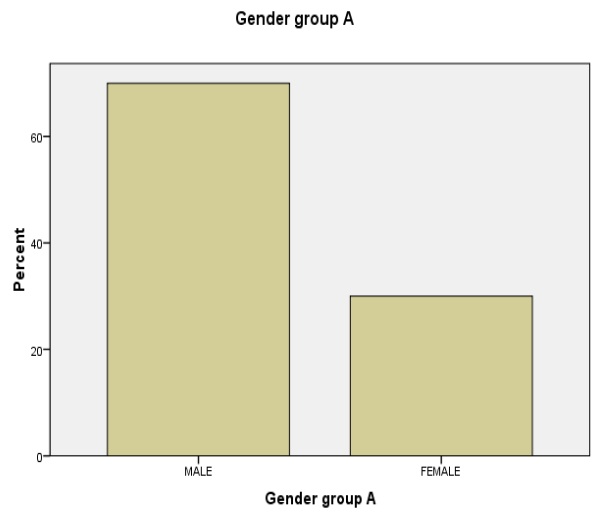
After approval from local ethics committee, one hundred and eighty patients with symptomatic hemorrhoidal disease fulfilling the inclusion criteria selected from outpatient department. They were divided into two groups A and B randomly by using computer generated random list having the assigned treatment. The demographic information like name, age, sex and address recorded. An informed consent obtained from patients for hemorrhoidectomy and confidentiality maintained. Patients were operated by consultant surgeon having post fellowship experience of 5 years or more under spinal anesthesia. The patients in group A operated with Circular stapler and patients in group B operated with the open Milligan-Morgan technique. All the patients were monitored for severity of postoperative pain on 1<sup>st</sup> and 2<sup>nd</sup> post operative days. The collected information entered and analysed through SPSS version 10. Descriptive statistics used to calculate mean and standard deviation for age. Frequency and percentages were calculated for gender and qualitative data (postoperative pain). The significance of differences observed by the two methods being qualitative (postoperative pain) subjected to Chi Square test, AP value of 0.05 or less taken as significant. Stratification was undertaken on age, and gender to study the effect of variables on the study.

## RESULTS

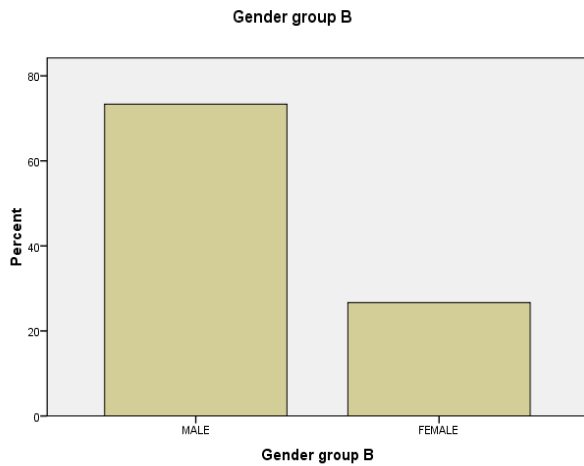
One hundred and eighty patients with haemorrhoids were chosen for the study from those who were presented to surgical OPD unit III of Nishtar Hospital, Multan. Following were the results of study: According to age distribution 8 patients were between 18–30, 12 patients were between 31–40 and 50 patients were between 41–50 years of age and 20 patients were between 51–60 with mean age of 45.20±9.5 in group A, while in group B 12 patients were between 18–30, 10 patients were between 31–40 and 46 patients were between 41–50 years of age and 22 patients were between 51–60 with mean age of 44.83±9.7 shown in (table1). There were 63 male patients and 27 female patients in group A while in group B 66 were male patients and 24 were female patients (Graph 1, 2).

Postoperative pain in group A and group B was noted at day one and second, results shown that no pain=60, mild pain=18, moderate pain=8, and severe=4 with 78 patients shown satisfactory while 12 patients shown unsatisfactory results. In group B results shown that no pain=1, mild pain=20, moderate pain=29, and severe=40 with 21 patients shown satisfactory while 69 patients shown unsatisfactory (Table 2) results shown in (Graph 3,4). When results of two groups were compared for postoperative pain it shows significant statistical difference in between two groups shown in (Table 3). Stratification for Gender in group A and group B for postoperative pain shown in (Table 4,5), while Stratification for age in group A and group B for postoperative pain shows no age specification.

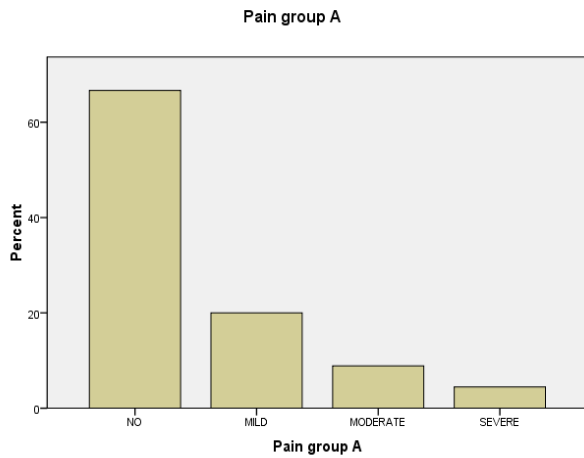
Graph=1



Graph 2



Graph=3



Graph=4

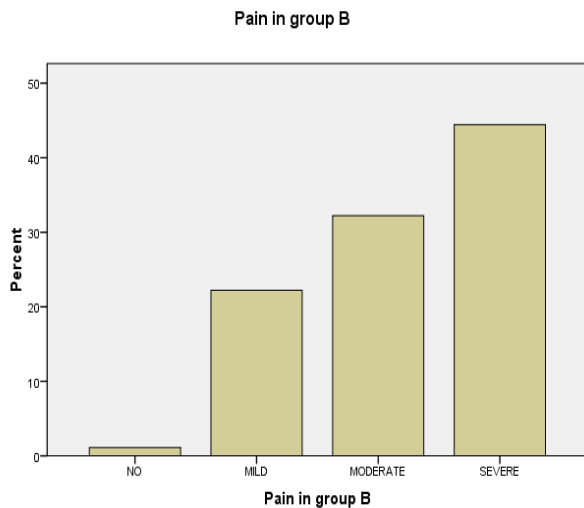


Table 1: Descriptive Statistics

	N	Min.	Max.	Mean	Std. Deviation
Group A	90	18	60	45.20	9.508
Group B	90	18	60	44.83	9.718
Valid N	90				

Table 2: Post operative pain in group A and group B

Group	Satisfactory	Unsatisfactory
A	78	12
B	21	69

Table 3: Pain in group B Pain group A Cross tabulation

Pain in Group B	Pain Group A				Total
	No	Mild	Moderate	Severe	
No	1	0	0	0	1
Mild	14	5	1	0	20
Moderate	20	7	2	0	29
Severe	25	6	5	4	40

P value: 7.6

Table 4: Gender group A Pain group A

Gender	No	Mild	Moderate	Severe	Total
Male	42	11	7	3	63
Female	18	7	1	1	27

Table 5: Gender group B Pain in group B

Gender	No	Mild	Moderate	Severe	Total
Male	1	17	18	30	66
Female	0	3	11	10	24

## DISCUSSION

Patients with symptomatic hemorrhoids who have failed nonoperative treatments may require surgery and Indications for surgical hemorrhoidectomy also include symptomatic hemorrhoids too extensive for nonoperative management, failure of medical treatment, and concomitant conditions, such as anal fissures or ulcers, that require surgery. Conventional surgical hemorrhoidectomy involves excision of the hemorrhoidal cushions and is the most effective treatment for hemorrhoids. The Milligan-Morgan (open) and Ferguson (closed) hemorrhoidectomy are the most commonly used techniques worldwide<sup>20,21</sup>. However, there are a few common complications associated with conventional hemorrhoidectomies, such as urinary retention, postoperative bleeding, significant pain, anal stenosis, and incontinence. Several modifications have been proposed to improve the postoperative outcome, and especially to reduce postoperative pain.

In 1998, Longo introduced an alternative method, PPH, for the surgical treatment of hemorrhoids using a circular stapling instrument which removes a ring of redundant rectal mucosa or expanded internal hemorrhoids. The goal is to pull the prolapsed hemorrhoid tissue back up into its normal position within the anal canal as well as to

disrupt the arterial inflow that traverses the excised segment. In this method, skin tags and enlarged external hemorrhoids are not removed, which undoubtedly contributes to the reduced pain scores. This was confirmed in this systematic review. The advantages of PPH were a shorter operation time, less postoperative pain, less postoperative urinary retention, and a quicker return to normal activity. The systematic literature search identified 30 randomized, controlled trials, 19 comparing PPH versus conventional hemorrhoidectomy versus conventional hemorrhoidectomy. Like those of the other controlled studies reported in the literature,<sup>22</sup> the results reported here show that stapled hemorrhoidectomy is associated with significantly less postoperative discomfort.

In our study One hundred and eighty patients with haemorrhoids were chosen for the study with mean age of 45.20±9.5 in group A and 44.83±9.7 in group B, age groups are comparable with study by Bikhchandani j showing mean age of patients 46.02 years (SD, 12.33) in the stapled group and 48.64 years (14.57) in the open group and with another study conducted by Shalaby R showing the mean (s.d.) age of patients in the stapled and surgical groups was 44.1(3.2) and 49.1(12.2) years respectively. There were 63 male patients and 27 female patients in group A while in group B 66 were male patients and 24 were female patients.

Postoperative pain in group A and group B was noted at day one and second with 78 patients shown satisfactory while 12 patients shown unsatisfactory results. In group B 21 patients shown satisfactory while 69 patients shown unsatisfactory. When results of two groups were compared for postoperative pain it shows significant statistical difference in between two groups. Like those of the other controlled studies reported in the literature, the results reported here show that stapled hemorrhoidectomy is associated with significantly less postoperative discomfort than open Milligan Morgan hemorrhoidectomy.

Stratification for Gender in group A and group B for postop pain shown that there is no difference regarding the severity of pain in either gender in, with same Stratification results for age in group A and group B for postop pain with no age specification. So it shows age and gender have no effect on our results and also there is no statistical data showing any effect of these variables on postop pain.

## CONCLUSION

This study confirms that stapled hemorrhoidectomy is associated with less postoperative pain with no effect of age and gender on outcome.

## REFERENCES

1. Cohen, Z. Alternatives to surgical haemorrhoidectomy. *Can J Surg* 1985;28: 230-231
2. Schrock TR. Hemorrhoids: nonoperative and interventional management. In: Barkin J, O'Phelan CA, editors. *Advanced therapeutic endoscopy*. New York: Raven Press, 1991
3. Pfenninger JL, Surrell J. Nonsurgical treatment options for internal hemorrhoids. *Am Fam Physician* 1995; 52: 821-834,839-841
4. Salvati EP. Nonoperative management of hemorrhoids: evolution of the office management of hemorrhoids. *Dis ColonRectum* 1999; 42: 989-993
5. MacRae HM, McLeod RS. Comparison of hemorrhoidal treatment modalities. A meta-analysis. *Dis Colon Rectum* 1995;38: 687-694
6. BLAISDELL PC. Office ligation of internal hemorrhoids. *AmJ Surg* 1958; 96: 401-404
7. BARRON J. Office ligation of internal hemorrhoids. *Am JSurg* 1963; 105: 563-570
8. MacRae HM, McLeod RS. Comparison of hemorrhoid-dal treatments:a metaanalysis. *Can J Surg* 1997;40:14
9. Jensen SL, Harling H, Arseth-hansen P, Tange G. The natural history of symptomatic haemorrhoids. *Int J Colorectal Dis* 1989; 4: 41-44
10. Trowers EA, Ganga U, Rizk R, Ojo E, Hodges D. Endoscopic hemorrhoidal ligation: preliminary clinical experience. *Gastrointest Endosc* 1998; 48: 49-52
11. Su MY, Tung SY, Wu CS, Sheen IS, Chen PC, Chiu CT. Longterm results of endoscopic hemorrhoidal ligation: two different devices with similar results. *Endoscopy* 2003; 35: 416-420
12. Su MY, Chiu CT, Wu CS, Ho YP, Lien JM, Tung SY, Chen PC. Endoscopic hemorrhoidal ligation of symptomatic internal hemorrhoids. *Gastrointest Endosc* 2003; 58: 871-874
13. Gordam, PH, Nivatrons, S (1992) Principles and practice of surgery for colon, rectum and anus, Quality Medical, St Louis
14. Hass, PA, Fox, TA, Haas, GP. The pathogenesis of hemorrhoids" *Dis Colon Rectum* 1984; 27: 442-450
15. Khubchandani, IT Operative haemorrhoidectomy" *Surg Clin North Am* 1988; 68: 144-146
16. Racalbutto, A. et al. Hemorrhoidal stapled prolapsectomy vs. Milligan- Morgan hemorrhoidectomy: a long-term randomized trial. *International Journal of Colorectal Disease*, 2004; 19: 239-244
17. Rowsell, M., Bello, M., Hemmingway, D.M. Circumferential mucosectomy (stapled hemorrhoidectomy) vs. conventional haemorrhoidectomy: randomised controlled trial. *The Lancet*, 4 March 2004; 355: 779-781
18. Boccasanta, P et al. RCT between stapled circumferential mucosectomy and conventional circular hemorrhoidectomy on advanced hemorrhoids with external mucosal prolapse. *American Journal of Surgery*, 2001; 182(1): 64-68
19. Ganio, E., Altomare, D.F., Gabrielli F., et al. Prospective randomised multicentre trial comparing stapled with open haemorrhoidectomy. *British Journal of Surgery*, 2001; 88: 669-674
20. Milligan E, Morgan C, Jones L. Surgical anatomy of the anal canal, and operative treatment of haemorrhoids. *Lancet* 1937;ii:1124-9.
21. Ferguson DJ, Heaton JR. Closed haemorrhoidectomy. *Dis Colon Rectum* 1959;2:176-9.
22. Mehigan BJ, Monson JR, Hartley JE. Stapling procedure for haemorrhoids versus Milligan-Morgan haemorrhoidectomy: randomised controlled trial. *Lancet* 2000;355:782-5.