

## ORIGINAL ARTICLE

## COMPARISON OF OPEN AND CLOSED TECHNIQUES OF HAEMORRHOIDECTOMY IN TERMS OF POST-OPERATIVE COMPLICATIONS

Shahid Majeed, Syeda Rifaat Qamar Naqvi, Mohammad Tariq, Mohammad Asghar Ali

Department of Surgery, Combined Military Hospital Kharian-Pakistan

**Background:** Haemorrhoids have been diagnosed and treated since the dawn of civilization, yet their cause, nature, symptomatology and especially their treatment options, remain hotly debated. The general principle however is that treatment should be directed by symptoms and the degree of haemorrhoids. The objective of the study is to compare early and late complications and wound healing time in open versus closed methods of haemorrhoidectomy. **Methods:** This was a Randomized control trial conducted at Department of Surgery CMH Kharian for a period of 3 years. During the period of study, patients presenting in Surgical OPD (Age Range 20–72 Years) with 3<sup>rd</sup> or 4<sup>th</sup> degree haemorrhoids requiring haemorrhoidectomy (n=364) were divided in two groups:- Group-1 was subjected to haemorrhoidectomy by open (Milligan-Morgan) technique and Group-2 underwent closed (Ferguson) haemorrhoidectomy. All patients were followed up for 2 months post-operatively and assessed for duration of wound healing and post-operative complications. **Results:** In group-1 (Open haemorrhoidectomy) patients' ages ranged from 21–70 years with a mean age of 43 years (SD±12.51). Duration of wound healing in this group was on the average 22 days (SD±5.76). Incidence of early post-operative complications including haemorrhage, infection and urinary retention was 4.94%, 8.24% and 7.14% respectively. The only late complication observed was anal stenosis in one patient (0.55%). No fissure or faecal incontinence was observed in this group. In group-2 (subjected to closed haemorrhoidectomy), patients' ages ranged from 20–72 years with a mean age of 42 years (SD±10.31). Duration of wound healing was on the average 14 days (SD±3.25). Incidence of early post-operative complications, i.e., haemorrhage, infection and urinary retention was 2.19%, 7.69% and 2.75% respectively. No late complications (stenosis, fissure or incontinence) were observed in this group. **Conclusion:** There is no statistical significant difference between open and closed haemorrhoidectomy for the treatment of 3<sup>rd</sup> and 4<sup>th</sup> degree haemorrhoids in terms of wound healing time and post-operative complications.

**Keywords:** Closed haemorrhoidectomy, Open haemorrhoidectomy, Haemorrhoids.

J Ayub Med Coll Abbottabad 2015;27(4):791–3

### INTRODUCTION

Haemorrhoids have been diagnosed and treated since the dawn of civilization, yet their cause, nature, symptomatology and especially their treatment options, remain hotly debated.<sup>1</sup> The general principle however is that treatment should be directed by symptoms and the degree of haemorrhoids.

In patients having first or second degree haemorrhoids, options lie between conservative treatment including dietary advice to increase bulk of stools and avoidance of straining, however injection sclerotherapy, rubber band ligation, infrared photocoagulation, bipolar diathermy and cryotherapy are other available treatment options for first and 2<sup>nd</sup> degree haemorrhoids.<sup>2</sup>

For more advanced (3<sup>rd</sup> and 4<sup>th</sup> degree haemorrhoids, haemorrhoidectomy is usually advised. Open (Milligan- Morgan) and closed (Ferguson) techniques of haemorrhoidectomy are available. The merits and demerits of both methods have been compared by many in western countries.

However very few such studies have been carried out in this region. Thus our study aims to compare the post-operative outcome of these two methods of haemorrhoidectomy.

This study will compare the two most commonly performed operative procedures. Although the open (Milligan- Morgan) technique is widely practiced and used in our setups but literature shows the superiority of close (Ferguson) technique. This study will clear ambiguity regarding the standard operative procedure for haemorrhoidectomy and will help our surgeons in choosing the best option available thus reducing the burden of disease morbidity and will help in decreasing economic burden of this common disease.

### MATERIAL AND METHODS

This study was conducted at surgical department of CMH Kharian. A total of 364 (n=364) patients were included in the study. After approval of Hospital Ethical Committee and informed written consent

from these patients, alternate patients were subjected to open haemorrhoidectomy and the other half were subjected to closed haemorrhoidectomy.

The patients presenting in Surgical OPD (Age Range 20–72 Years) with 3<sup>rd</sup> or 4<sup>th</sup> degree haemorrhoids requiring haemorrhoidectomy (n=364) were randomly assigned in two groups:- Group-1 was subjected to haemorrhoidectomy by open (Milligan - Morgan) technique and group-2 underwent closed (Ferguson) haemorrhoidectomy.

Post operatively all these patients were followed up for 2 months and wound healing time was observed in these patients. Post-operative complications including urinary retention, bleeding, infection, anal stenosis, faecal incontinence and anal fissure were looked for in all these patients and recorded. Data analysis was performed using computer software SPSS-13. *p*-value was calculated and a value of <0.05 was considered as significant.

## RESULTS

A total of 364 patients (n=364) were included in this study, 182 in each group. In group -1- (Open haemorrhoidectomy) patients' ages ranged from 21-70 years with a mean age of 43 years (SD±12.51). In group-2 (Closed haemorrhoidectomy), patients' ages ranged from 20-72 years with a mean age of 42 years (SD±10.31). There was a male predominance, with male to female ratio of 2:1.64.

In group-1, which underwent open haemorrhoidectomy, duration of wound healing was 22 days (SD±5.76) on the average as compared to 14 days (SD±3.25) in group-2 which underwent closed haemorrhoidectomy. On the operation day, in 13 patients (7.14%) out of group-1, urinary retention was observed, as opposed to 5 patients (2.75%) in group-2. Chi-Square did not reveal a statistical significance as '*p*' value was more than 0.05 (*p*=0.088).

All these patients were above 55 years of age. Haemorrhage was observed in 9 patients (4.94%) undergoing open procedure (Group-1) and in 4 patients (2.19%) undergoing closed procedure (Group-2). Chi-Square did not reveal a statistical significance as '*p*' value was more than 0.05 (*p*=0.258).

The wound became infected in 15 patients (8.24%) belonging to group-1 the wound became infected whereas 14 patients (7.69%) from group-2 developed infected wounds. Chi-Square did not reveal a statistical significance as '*p*' value was more than 0.05 (*p*=1.000).

Late complications like anal stenosis, faecal incontinence and anal fissure were not found in any of the group-2 patients. However one patient (0.55%) from group-1 developed anal stenosis, which was

treated by anal dilatations. Chi-square did not reveal a statistical significance as '*p*' value was more than 0.05 (*p*=1.000).

**Table-1: Comparison of open and closed haemorrhoidectomy**

	Group-1 (Open) n=183	Group-2 (Closed) n=183	<i>p</i>
Duration of Wound Healing (Average)	22 days (SD±5.76)	14 days (SD±3.25)	
Urinary Retention	13 (7.14%)	5 (2.75%)	0.088
Haemorrhage	9 (4.94%)	4 (2.19%)	0.235
Infection	15 (8.24%)	14 (7.69%)	1.000
Anal Stenosis	1 (0.55%)	Nil	1.000

## DISCUSSION

The study group selected had a mean age of 43 years and had a male predominance of 2:1.64. This is comparable to other studies showing that mean age of patients presenting with symptomatic haemorrhoids is 43.5%.<sup>3</sup>

The wound healing time for open haemorrhoidectomy observed in our study was more (22 days) as compared to that for closed haemorrhoidectomy (14 days). This is comparable to other studies which have also found wound healing times of 28–34 days in open haemorrhoidectomy versus 12–17 days in closed haemorrhoidectomy.<sup>4,5</sup>

Post-operatively patients undergoing haemorrhoidectomy may develop urinary retention in response to pain and under the effects of spinal anaesthesia. This is more common in elderly males. Some studies have found that pain and subsequently urinary retention is more common after closed haemorrhoidectomy<sup>5</sup>, others have found that pain and retention of urine is significantly lower in closed as compared to open haemorrhoidectomy.<sup>5,7</sup> In our study the incidence of urinary retention was almost 3 times more after open haemorrhoidectomy (7.14%:2.75%). However this was statistically not significant as *p* value was less than 0.05 (*p*=0.088).

Haemorrhage after open haemorrhoidectomy in our study was more than twice as common as after closed haemorrhoidectomy. This is also comparable to other studies.<sup>4,5</sup>

Rate of infection in our study is almost equal in both groups. Some studies however have found infection to be more common after closed haemorrhoidectomy (0%:11.8%).<sup>8</sup>

Late complications were rare in our study. Only one patient undergoing open haemorrhoidectomy developed anal stenosis. Rest of the complications were not found in either group.

## CONCLUSION

In our study, there is no statistical significant difference between open and closed haemorrhoidectomy for the treatment of 3<sup>rd</sup> and 4<sup>th</sup>

degree haemorrhoids in terms of wound healing time and post-operative complications.

### AUTHOR'S CONTRIBUTION

SM: study design, data collection and manuscript write-up, SRQN, MT, MAA: literature search, manuscript writing and proof reading

### REFERENCES

1. Thomson WH. Anus. In: Morris PJ, Malt RA editors. Oxford Textbook of surgery. New York: Oxford University Press 1994;1125–36.
2. William NS. The anus and anal canal. In: Russell RCG, William NS, Bulstrode CJK editors. Bailey. Love short practice of surgery. 24<sup>th</sup> ed. London. Arnold 2004;1255–62.
3. Aroya A, Perez F, Miranda E, Serrano P, Candela F, Lacueva J, *et al.* open versus closed day case

haemorrhoidectomy, is there any difference ? Results of a prospective randomized study. Int J Colorectal Dis 2004;19(4):370–3.

4. Ahmed A, Noor F, Hussain R, Chowdry Z, Qadir S. Strengths and limitations of close vs. open haemorrhoidectomy in patients of 2nd and 3rd degree haemorrhoids. Ann KE Med Coll 2003;9:219–20.
5. Malik GA, Wahab A, Ahmed I. Haemorrhoidectomy: Open Versus closed technique . J Surg Pak 2009;14(4):170–2.
6. Shoaib M, Ali AA, Naqvi N, Gondal KM, Chaudhry AM. Open versus closed haemorrhoidectomy, an experience at Mayo Hospital. Ann KE Med Coll 2003;9:65–8.
7. You SY, Kim SH, Chung CS, Lee DK. Open VS closed haemorrhoidectomy. Dis colon Rectum 2005;48(1):108–13.
8. Mik M, Rzetecki T, Sygut A, Trzcinski R, Dziki A. Open and closed haemorrhoidectomy for fourth degree haemorrhoids--comparative one center study. Acta Chir Iugosl 2008;55(3):119–25.

---

### Address for Correspondence:

**Shahid Majeed**, Head of Department of Surgery, Combined Military Hospital, Kharian-Pakistan

**Tel:** +92 53 59 6106

**Email:** rifaatqamar@yahoo.com