

OPEN HAEMORRHOIDECTOMY VERSUS CLOSED HAEMORRHOIDECTOMY: THE CHOICE SHOULD BE CLEAR

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ABSTRACT

Objective: To evaluate the outcome of Milligan-Morgan haemorrhoidectomy versus Ferguson haemorrhoidectomy on the basis of pain, wound healing time, infection.

Study Design: A randomised case-control study.

Setting & Duration: Surgical Unit II, Civil Hospital Karachi from May 2005 to Jan 2007.

Methodology: Non-probability sampling was done with randomization of odds and even numbers was done. It was comparing 50 patients undergoing Milligan-Morgan haemorrhoidectomy (group A) versus 50 patients undergoing Ferguson haemorrhoidectomy (group B) for symptomatic haemorrhoids, in whom medical treatment or rubber band ligation had failed. Pain measurement was done subjectively postoperatively by asking the patients their return to normal level of activity. Wound healing time and wound infection was observed and noted. All patients were followed for a total of three months.

Results: A total of 117 patients were recruited for the study. Study was declared completed when both groups had 50 patients completing follow-up. Mean hospital stay for group A was 3 days and group B was 2 days. Pain was relieved earlier in Group B. Wound healing is 6 to 8 weeks for open haemorrhoidectomy and 4 to 6 weeks for closed haemorrhoidectomy post operative bleeding for open haemorrhoidectomy in 4 patients and none in closed haemorrhoidectomy, wound infection in 2 patients of open haemorrhoidectomy and 1 patient of closed. Anal stenosis was seen in 2 patients of open haemorrhoidectomy and 1 patient of closed haemorrhoidectomy.

Conclusion: Closed haemorrhoidectomy gives better results than open haemorrhoidectomy, whereas recurrence and complications rates are similar in terms of outcomes of both techniques.

KEY WORDS: Milligan-Morgan Haemorrhoidectomy, Ferguson Haemorrhoidectomy, Anal Pain, Wound Healing, Infection

INTRODUCTION

Haemorrhoids are specialized, highly vascularized "cushions" forming discrete masses of thick submucosa containing blood vessels, smooth muscle, and elastic and connective tissue within the normal anal canal. They are located in the left lateral, right anterior, and right posterior quadrants of the canal to aid in anal continence. The term haemorrhoids should be restricted

to clinical situations in which these "cushions" are abnormal and cause symptoms. The cause of haemorrhoids remains unknown.¹

Hemorrhoids have been treated by surgeons for centuries. Therapies for the topical treatment of haemorrhoids date back to Egyptian papyri of 1700 BC. The first surgical treatment was described in the Hippocratic Treatises of 460 BC, and suggested 'transfixing them with a needle and tying them with a very thick and large woollen thread'.² Despite centuries of treating the condition, its precise aetiology is unclear and a definitive treatment has yet to be established. It is a condition with a variety of symptoms and a spectrum of severity. The large number of treatment options reflects this. Haemorrhoids affect between 4.4 and 36.4% of the general population.³

In clinical practice 5-10% of patients suffering from

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haemorrhoids do not respond to conservative treatments in the short or long term, and so surgical haemorrhoidectomy becomes the treatment of choice in such cases.⁴ Haemorrhoidectomy is considered an effective, although painful, treatment of third-degree and fourth-degree haemorrhoids. The conventional open as described by Milligan and Morgan⁵ in 1937 and closed haemorrhoidectomy⁶ procedures and their modifications are time-tested^{7,8} but both entail similar complications and a protracted postoperative course.

Studies have shown that closed haemorrhoidectomy gives better results than open haemorrhoidectomy, whereas recurrence and complications rates are similar in both conditions after long time.⁹ Postoperative urinary retention might also be influenced by the regional anaesthesia.¹⁰

As a result of the quest for a better technique of haemorrhoidal ablation, other newer methods have been evaluated. The Sutureless Haemorrhoidectomy described by Sayfan⁶ is certainly innovative and has shown good results and fewer complications. Circular stapled haemorrhoidectomy described by Longo¹¹ in 1998 has been shown to produce good results.

Rationale of the study:

The rationale of the study was that closed haemorrhoidectomy has a better overall outcome compared to open haemorrhoidectomy.

METHODOLOGY

A randomised case control trial with prospective data collection of 100 patients from January 2006 to June 2008 in Surgical Unit II, Civil Hospital and Dow Medical College Karachi was done. Convenient non-probability sampling was done with randomization process was carried out by odds and even numbers. The Operating surgeons were blinded to the randomization process. The study was comparing 50 patients undergoing Milligan-Morgan haemorrhoidectomy (group A) versus 50 patients undergoing Ferguson haemorrhoidectomy (group B) for symptomatic haemorrhoids, in whom medical treatment or rubber band ligation had failed.

Inclusion criteria were all patients diagnosed as having symptomatic 3rd and 4th degree haemorrhoids and in whom prior medical treatment (high residue diet and warm sitz baths) or rubber band ligation had failed.

Exclusion criteria was patients who had recurrence of haemorrhoids following earlier surgery (any operative procedure) or patients who presented with thrombosed haemorrhoids.

Patients were admitted through out patients and underwent standard screening for Anaesthetic fitness. Choice of anaesthesia was left to the anaesthetic team with a preference for Spinal Block with bupivacaine. Each patient signed the informed consent before participating in the study. Standard antibiotic prophylaxis and bowel preparation was carried out.

In Milligan-Morgan, or open method, the wounds were left open; however, in Ferguson, or closed method, the excision tends to be more conservative and the wounds were closed using a continuous 2/0 chromic suture. Packs were removed on the 1st post-operative day in both groups. Post-operative treatment included a high-fibre diet, sitz baths with warm water, ointment with local anaesthetic and regular analgesia.

Pain measurement was done subjectively postoperatively by asking the patients their return to normal level of activity. Recording of intensity of pain was not done. Also taken into account was the need for analgesia in the post-operative period. Wound healing time and wound infection was observed and noted. Wound were labelled as being infected if they showed one of the following; purulent discharge, redness or foul smell. Wounds were taken as healed if they did not show signs of infection, discharge and the mucosal and skin margins were approximated and closed.

The patients were followed-up afterwards at the out-patient clinic at intervals of 1 week, one month, two months and final visit at three months. Assessment of all variables was done at each visit. All patients were followed for a total of three months.

Study was declared completed when both groups had 50 patients each completing follow-up.

RESULTS

A total of 117 patients were recruited for the study. Study was declared completed in June 2008. The mean age of the studied population was 43.5 years. There was a predominance of males (61.5%) with no gender differences. The anaesthetic risk was ASA I-II in 88% of the patients and ASA III in 12%. There were not significant differences between the two groups in the characteristics of patients.

The anaesthetic technique was spinal anaesthesia in 92 patients and eight patients had to be converted to General Anaesthesia, and there were no relevant anaesthetic complications or operative mortality either. The average length of surgery was 24 min in group A (Milligan-Morgan) versus 30 min in group B (Ferguson).

Following removal of rectal packing on day one it was noted that Group B required less analgesia and mobilized early and this is reflected in the mean hospital stay period which for group A was 3 days and group B was 2 days. The pattern of pain relief showed that 40 out of 50 patients of Group B had nearly no pain by day 16 and did not require analgesia. All these patients had mobilized fully to pre-operative levels of activity.

Wound healing was between 6 to 8 weeks for the Group A (Milligan-Morgan open haemorrhoidectomy) and was 4 to 6 weeks for the closed haemorrhoidectomy. Anal stenosis in 2 patients of open haemorrhoidectomy and 1 patient of closed haemorrhoidectomy. Details of other variables can be seen in Table I.

DISCUSSION

The lining of the anal canal is highly innervated tissue in the digestive tract and thus pain after haemorrhoidectomy is an expected outcome. The exposed area of the anal canal following open haemorrhoidectomy has been implicated as the cause of pain and delayed wound healing in comparison Ferguson's closed haemorrhoidectomy have been advocated.¹²

Relief from Anal pain was seen earlier in Group B which was the Closed (Ferguson's) group. Out of the total 50 patients 48(96%) had total relief and were not using any kind of analgesia. This was in contrast to 39(78%) patients out of 50 in Group A who had relief from pain. This result from the presented study is in slight contrast to Johannsson¹³ from Sweden who in 2006 showed on significant difference in post operative pain between the two groups of patients studied. The same outcome was shown by Arroyo⁵ in 2004 with no significant difference in pain.

Complete healing was observed in 70% cases in the closed haemorrhoidectomy group (110 patients) versus 57% cases of open haemorrhoidectomy group (115 patients) in Johannsson¹³ at one month follow up. The results from the present study show healing in 82% (41 patients) in the Closed haemorrhoidectomy group compared to 54% (27 patients) in the Open Group. There was complete healing in 40% of the patients in group A (Open) and 90% of those in group B (Closed) after 1 month in the study by Arroya⁵ which gives validation to outcomes of the presented study. Similar results were seen by Gençosmanoglu and co-workers from Turkey¹⁴ who observed that healing time was significantly shorter in Group B(Closed) 2.8 ± 0.6 weeks vs. 3.5 ± 0.5 weeks in the Open group. Arberman⁹ in 2000 from his study of a total of 77 patients showed that at follow-up after three weeks 86 percent of the Ferguson patients had completely healed wounds, and none had signs of infection. Of the Milligan-Morgan patients, only 18 percent had completely healed wounds, and symptoms of delayed wound healing were significantly more frequent and one patient had a superficial wound infection. From a study published Lahore by Rafiq¹⁵ it was seen that after 3 weeks, 70 percent after closed haemorrhoidectomy had completely healed wounds whereas 15 percent with open haemorrhoidectomy had completely healed wounds. Frequency of prolonged serous discharge was more in unhealed closed wounds whereas pruritis and granuloma were high in open wounds.

Wound infection was observed in 5(10%) of cases in the Open Group at one month follow up compared to one (2%) of cases in the Closed group. Infection decreased to one cases in the Ferguson group at 2 month follow up with no case in the Milligan-Morgan group. In the study published in 2003 by Shoab¹⁶ and co

Table I. Results of study

	Day 1		One Week		One Month		Two Months		Three Months	
	A	B	A	B	A	B	A	B	A	B
Anal Pain	50	50	41	32	11	2	6	0	4	0
Rectal Bleeding	47	42	11	05	1	0	0	0	0	0
Constipation	n/a	n/a	15	08	17	7	9	3	7	2
Post-operative Urinary Retention	4	1	0	0	n/a	n/a	n/a	n/a	n/a	n/a
Flatus/Feecal incontinence	n/a	n/a	4	2	0	0	0	0	0	0
Wound Infection	n/a	n/a	8	3	5	1	1	0	0	0
Wound Healing	n/a	n/a	14	31	27	41	41	47	46	49
Anal Stenosis	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	2	0

n/a denoted not applicable at this stage.

workers on 50 patients it was seen that complete wound healing took longer in open haemorrhoidectomy as compared to closed technique which is similar to this study. In a study from Niger¹⁷ slightly different results regarding wound infection was seen; two cases of wound infection all in the patients undergoing Ferguson haemorrhoidectomy was seen.

Although not part of the objective assessment flatus/feecal incontinence was seen in 4 cases in the open group and 2 cases in closed group at one week follow up. At one month follow up no patient complained of this problem. Other authors^{5,9,14} have reported similar outcomes. Anal stenosis was in 2 case at two and three (final) follow up in the Milligan-Morgan group. No case of Anal stenosis was seen in the Ferguson group. This is in contradiction to results observed by Gencosmanoglu¹⁴ of anal stenosis using the Ferguson technique. No such late complication was seen in the Open group in that study. Another outcome which was not objectively measured yet observed was that patients in both groups had similar recovery times (return to pre-operative levels of activity) of approximately two weeks which is again similar to previously published studies.¹³⁻¹⁵

CONCLUSION

Closed haemorrhoidectomy gives better results than open haemorrhoidectomy, whereas recurrence and complications rates are similar in terms of outcomes of both techniques. Patient acceptance is more for Ferguson technique.

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