

Research Article

Haemorrhoidectomy: Milligan Morgan versus Ferguson in Omdurman Teaching Hospital

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Abstract: Milligan Morgan haemorrhoidectomy (MMH) was modified to Ferguson haemorrhoidectomy (FH) to reduce the post-operative pain which thought to be due to leaving the mucosa opened. The objective was to study the comparison between two procedures in term of operative time, hospital stay, post-operative complications, healing time and return to work after surgery. A prospective interventional study was conducted in Omdurman teaching hospital, department of general surgery. In period from April 2013 to April 2014, included patients of third and fourth degree haemorrhoid and excluded patients with complicated haemorrhoids and patients less than 14 years of age. Data collected through a predesigned pretested questionnaire and analyzed using computer programme package for social sciences (SPSS) version 20. MMH was done in 51 patients and 49 patients had FH. The mean age was 37.8 ± 13.4 years; the male patient number was equal to number of female patients. MMH had shorter duration than FH with mean of 21.8 ± 10.9 minutes and p value was 0.005. There is no difference in hospital stay; all patients had day case surgery. Post-operative pain had no significant difference in first 24 hour p value was 0.138 and second post-operative day the p value was 0.804. Post-operative complications also had no significant difference as well as return to work. Faster healing time was reported in FH, P value < 0.001. MMH had shorter operation's duration. FH show faster healing time than MMH, no significant difference in both procedures regarding hospital stay, post-operative pain, complications and return to work.

Keywords: Ferguson's haemorrhoidectomy, Healing time, Milligan Morgan's haemorrhoidectomy

INTRODUCTION

Surgery is an evolutionary process. This has been true for surgical haemorrhoid treatments as well. In the late 1802 Whitehead introduced the total haemorrhoidectomy, still in use today, although only for very specific situations. This was followed in the mid 1932 by the Milligan-Morgan technique, known as the open haemorrhoidectomy. By 1952, a modification of the open haemorrhoidectomy was developed by Dr. Ferguson and became known as the closed haemorrhoidectomy [1]. Treatment is divided by the cause of symptoms, into internal and external Treatments. Internal haemorrhoid does not have cutaneous innervation and can therefore be destroyed without anesthetic. Because it is believed that straining and a low-fiber diet cause Haemorrhoidal disease, conservative treatment includes increasing fiber and liquid intake and retraining in toilet habit [2]. Numerous methods to destroy internal haemorrhoid are available; they include rubber band ligation, sclerotherapy injection, infrared photocoagulation, laser ablation, carbon dioxide freezing, Lord Dilatation, stapled haemorrhoidectomy, and surgical resection [3-5]. All of these methods (except stapled haemorrhoidectomy and

surgical resection) are considered nonoperative treatments and should be the first-line treatment of all first- and second-degree internal haemorrhoids that do not respond to conservative therapy [6]. Operative resection is reserved for patients with third- and fourth-degree Haemorrhoids, patients who fail nonoperative therapy, and patients who also have significant symptoms from external haemorrhoids or skin tags.

Laser haemorrhoidectomy, as opposed to conventional scalpel and electro cautery techniques, is associated with many myths Haemorrhoidectomy [7]. Blaisdell and Barron described and refined ligation Therapy [8,9].

Lord dilatation is seldom used in the United States, and many colorectal Surgeons condemn its use, because it is essentially an uncontrolled disruption of the sphincter mechanism, Sclerotherapy can provide adequate treatment of early internal Haemorrhoids [10,11].

Surgical treatment for third and fourth degree haemorrhoids. Operations was done according to open

technique in which the wound left opened to heal by secondary intention, and closed technique in which the mucosa approximated with non-absorbable suture material 3/0 polyglycolic suture [12].

PATIENTS AND METHODS

This is a prospective interventional study was conducted in Omdurman teaching hospital, department of general surgery. In period from April 2013 to April 2014 included patients of third and fourth degree haemorrhoid and excluded patients with complicated haemorrhoids and patients less than 14 years of age. Data collected through a predesigned pretested questionnaire and analyzed using computer programme package for social sciences (SPSS) version 20.

RESULTS

A total of 100 patients who satisfied the inclusion criteria were included in the study. The mean age was 37.8±13.4 years and the majority of the patients were ranging from 15 to 60 years of old, they represent 96% of the patients, the rest was less than 15 years and more than 60 years were equal only 2% for each group. The male patient number was equal to number of female patients. The duration of patient complain had a mean 3.9 ±4.7 months, the Majority (40%) of the patients complained of symptoms for less than one month. Symptoms of haemorrhoid's patients complaint, the common triad of symptoms were; swelling, constipation and bleeding per rectum in 87%, 71% and 66% respectively. The least symptom was itching which was seen in 49% as shown in (Table 1).

Table-1: Symptoms of haemorrhoids patient's complaints in the study group

Symptoms of the patient's complaint	Frequency	percent
Pain	60	60.0
Bleeding	66	66.0
Itching	49	49.0
Swelling	87	87.0
Constipation	71	71.0

Digital per rectal examination was normal in 96%. The Proctoscopy examination show internal pile in 100% of the patients, Third degree haemorrhoid diagnosed in 76% of the patients, the rest 24% had

fourth degree haemorrhoid. History of previous anal surgery was negative in 90% of the patients. MMH had a mean of 1.92±SD 0.272, and FH had mean of 1.88±0.331. (Table2)

Table 2: Duration of haemorrhoidectomy's operation (MMH and FH)

Duration (minutes)	Type of surgery		Total
	Open	Close	
10-24	35(35%)	21(21%)	56(56%)
25 – 39	16(16%)	22(22%)	38(38%)
40 – 54	0(0.00%)	06(06%)	06(06%)
Total	51(51%)	49(49%)	100(100%)

Type of anesthesia was spinal anathesia in 94% of the operations. The mean of the duration of operation was 21.8±10.9 minutes. MMH had shorter operative duration. The majority of operation's duration was 10 – 24 minute representing 56% of the patients. The duration of operation in MMH from 10-24 minutes was 35%, while the FH was 21%, P value less than 0.05. Regarding hospitalization, all the patients were discharge after one day after the surgical operation.

equal 6.43±3.13 and for FH was 7.4±3.25. The visual analogue score in 48 hour in patients had MMH had a mean equal 4.27±3.15, and those with FH was 4.41±2.11 .

In Post-operative complications of haemorrhoidectomy, the visual analogue score for pain in the first 24 hour for those who had MMH had a mean

The most common post-operative complication was constipation which complicate 62% of operations, anal bleeding occurred in 57% of the patients , followed by urine retention, infection in, 33%,17% respectively, the least occurring complication was incontinence which reported in 6% of the patients. (Table 3).

Table-3: Post-operative complications of haemorrhoidectomy (MMH and FH) (n=100)

Complications	Type of surgery			P Value
	MMH	FH	Total	
Bleeding	28 (28.0%)	29 (29%)	57 (57%)	0.665
Urine retention	19 (19%)	14(14%)	33(33%)	0.356
Infection	11(11%)	06(06.0%)	17(17%)	0.215
Incontinence	04(04%)	02(02%)	06(06%)	0.428
Constipation	29(29%)	33(33%)	62(62%)	0.280

Healing time that occurred in less than two weeks was 84% of the patients, in MMH were 35%, while in FH were 49%,with P value <0.001. Patients

who return back to their work in a less than two weeks were 64%. Patients with FH were 35%, and those with MMH were 29%, P value 0.129. (Table 4)

Table-4: Healing time and Return to work after haemorrhoidectomy

Duration (Weeks)	Healing time		Return to work		Total
	MMH	FH	MMH	FH	
< Two weeks	35(35%)	49(49%)	29(29%)	35(35%)	84(84%)
< Four weeks	16(16%)	0(0.00)	22(22%)	14(14%)	16(16%)
Total	51(51%)	49(49%)	51(51%)	49(49%)	100(100 %)
P value	0.00		0.129		

DISCUSSION

The choice of surgical technique had been subjective to considerable debate; the exposed area of mucosa following open haemorrhoidectomy had been implicated as the cause of pain following surgery. For this reasons closed haemorrhoidectomy had been advocate [13].

A total number of 100 patients had satisfied the inclusion criteria and enrolled in this study. In this comparative study a total of 51% of the patients under went MMH, and 49% had FH.

The mean age was 37± 13.4 years (range 15 - 60 years). This variation was also notice by Hmid Jain when comparing open and closed haemorrhoidectomy and he reported a mean age of 39 years. Also he reported no difference in gender distribution. In this study males and females were affected equally [13]. Comparable to the findings of Hoyh Buttne [14].

The triad of patient complaints were; anal swelling, constipation and bleeding in 87%, 71% and 66% respectively. This is similar to the findings reported by A. Arroyo, where bleeding per rectum (95%) rank first in third and fourth degree haemorrhoid [15].

Diagnosis of haemorrhoids was done by digital rectal examination and proctoscopy examination. The per rectal digital examination was normal in 96% of the patients with no palpable masses. Rectal polyp was palpable in 6% of the patients.

Clinical and proctoscopy examination revealed third degree haemorrhoid in 76% and fourth degree haemorrhoid in 34% of our patients. Which justify haemorrhoidectomy as reported in the literature [16].

Ten percent of our patients had recurrent haemorrhoid and this is higher than 5% in the literature [16]. The mean duration for recurrence in the current study was 1.92±SD 0.272 in MMH, and 1.88±0.331 in FH.

Most of our patients (94%) were operated under spinal anaesthesia; as spinal anathesia is faster than general anathesia on performance and avoid complications of the general anathesia especially in elderly patients with co-morbidity such as cardiovascular and respiratory diseases. Only 6% had general anathesia because they were less than 15 years of age.

Duration of the surgery showed significant difference between the two methods used in this study, with a P value of 0.005. MMH had shorter operative time than FH. The mean operative duration was 21.8±10.9 minutes. Most of our patients (56%) were operated in 10-24 minutes, 35% in MMH and 21% in FH. A study done by Arrowo reported shorter operative time in MMH in comparison of FH. Another trial done by an Hoyh Buttne and HO.P.G reported the same result [14,15]. This variation explained by the closure of the mucosa in closed methods, takes extra time than leaving it opens as in open haemorrhoidectomy.

There was no difference in post-operative hospital stay which found to be one day in all patients; haemorrhoidectomy is considered as day case surgery. This also reported by Arabman's study [13].

Post-operative pain in first 24 hour had no significant difference between the two procedures. The visual analogue score for pain in the first 24 hour for those who had MMH had a mean equal 6.43 ± 3.139 . Whereas, of FH had a mean of 7.39 ± 3.25 , P value 0.138. In addition there was no significant difference in post-operative visual pain analogue in 48 hour. MMH had a mean of 4.27 ± 3.15 , and FH had a mean of 4.41 ± 2.11 , P value 0.804.

A randomized trial Carapeti study shows no significant difference in mean pain score in both open and closed haemorrhoidectomy [17]. A study done by Arabman also reported the same result [13].

Constipation and bleeding were the most common complications in our study accounting for 62% and 57% of the patients respectively.

There is no significant difference regarding postoperative complications in both procedures. Bleeding, constipation, urine retention, infection and incontinence; showed P values of (0.665, 0.280, 0.356, 0.215 and 0.428) respectively. This is in accord with Arbman and Hoyh Buttne findings [13,14].

Ferguson's haemorrhoidectomy show shorter healing time with significant statistical value. Healing in less than two weeks was reported in 84% of the patients (35% in MMH, and 49% in FH) with P value <0.001 . A Study conducted by Hoyh, and Erbman's et, al study as well as Seong .Y study's reported that, the closed technique is more advantageous with respect to faster wound healing [15,18,19,21].

There was no significant difference in both methods with respect to return to work. Sixty four patients return to their work in less than two weeks (29% in MMH and 35% in FH), P value 0.129. A study done by Gencosmanglo R, Orhan .S reported the same result [21].

CONCLUSION

Ferguson's haemorrhoidectomy had significant faster post-operative healing time in comparison with Milligan Morgan's haemorrhoidectomy. MMH shows significant faster surgical duration than FH. There was no significant difference in post-operative complications including pain, bleeding, urine retention, constipation and incontinence. The overall rate of complication is acceptable and constipation was the most occurring complication. Returning to work had no significant difference.

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