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Research Article

A COMPARATIVE STUDY ON RESULTS OF FERGUSON HAEMORRHOIDECTOMY VERSUS MILLIGAN-MORGAN HAEMORRHOIDECTOMY

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Abstract:

Objective: To evaluate pain, wound healing time and infection-related outcomes in comparison of Ferguson haemorrhoidectomy versus Milligan-Morgan haemorrhoidectomy.

Study design: A randomized case-control study.

Place and Duration: In the Surgical Unit II of Aziz Bhatti Shaheed Teaching Hospital Gujrat. for one year duration from May 2018 to May 2019.

Methodology: By Non-probability sampling, odds and even numbers were randomized. Fifty patients who underwent Milligan-Morgan haemorrhoidectomy (group A) were compared with 50 patients who underwent Ferguson haemorrhoidectomy (group B) for symptomatic haemorrhoids that failed rubber band ligation or medical treatment. Subjectively, postoperatively pain was assessed when patients return to normal activity level. The wound infection and wound healing time were noted and observed. For three months; all patients were follow-up.

Results: 117 total subjects were included in the study. The analysis was finished when 50 patients completed the follow-up in both groups. 3 days was the average group A hospital stay and was 2 days for group B. In Group B, Pain settled earlier. The healing time was six to eight weeks for closed haemorrhoidectomy, four to six weeks postoperatively for open haemorrhoidectomy. The wound infection noted in 2 open haemorrhoidectomy patients and 1 closed patient and in 4 patients post-operative bleeding was noted in open haemorrhoidectomy and no case in closed one. Anal stenosis was observed in 2 open haemorrhoidectomy patients and 1 closed haemorrhoidectomy patient.

Conclusion: While closed haemorrhoidectomy gives improved outcome than open haemorrhoidectomy, complications and recurrence rates are same in terms of the results of both methods.

Keywords: Ferguson haemorrhoidectomy, Infection Milligan-Morgan haemorrhoidectomy, wound healing, anal pain.

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INTRODUCTION:

Haemorrhoids are extremely vascularized special "cushions" which form separate masses of thick lower mucosae containing elastic and connective tissue in smooth muscles, blood vessels, normal and elastic connective tissue [1-3]. They are situated on the right anterior, right posterior and left lateral canal quadrants to assist in anal continence. The word haemorrhoids should be limited to the clinical situation in which these "cushions" cause symptoms and are abnormal. The haemorrhoids aetiology is unidentified. For centuries; surgeons are treating haemorrhoids. The topical treatments for haemorrhoids are treated in 1700 from the Egyptian papyrus [4]. The first surgical treatment was defined in the Hippocrates Treatises of 460 and 'transfixing them with a large woollen and very thick thread or with a needle and tying them'. Although it has cured the disease for centuries, its exact etiology is not clear and yet no definite management plan has made. It is illness with various symptoms and a spectrum of severity [5]. Numerous treatment options reflect this⁷. Haemorrhoids affect 4.4 to 36.5% of the normal citizens. In daily practice of surgeons, 6 to 10% of haemorrhoids patients do not react to conventional management in the long or short term, so surgical haemorrhoidectomy becomes the preferred treatment in those patients [8]. Although haemorrhoidectomy is painful, it is operative for the management of 3rd and 4th degree haemorrhoids. Open conventional procedures and closed haemorrhoidectomy procedures and modifications have been proven, as defined by Morgan and Milligan in 1937, but both involve same difficulties and a long postoperative sequence [9].

Research has proven that closed haemorrhoidectomy yields enhanced outcomes than open haemorrhoidectomy, and that complications and recurrence rates are same in both cases after extended period. The regional anaesthesia is also responsible for postoperative urinary retention.

MATERIALS AND METHODS:

This randomized case-control study was held in the Surgical Unit II of Aziz Bhatti Shaheed Teaching Hospital Gujrat. for one year duration from May 2018 to May 2019. By Non-probability sampling, odds and even numbers were randomized. Fifty patients who underwent Milligan-Morgan haemorrhoidectomy (group A) were compared with 50 patients who underwent Ferguson haemorrhoidectomy (group B) for symptomatic haemorrhoids that failed rubber band ligation or medical treatment. The patients with symptomatic 3rd and 4th degree haemorrhoids who had previously elastic band ligation or failed medical

management were included. The subjects with recurrent haemorrhoids after previous surgery (any surgical method) or patients presenting thrombosed haemorrhoids were not included. The cases were hospitalized after standard anaesthetic ability assessment was performed. Choice of anaesthesia, spinal block with bupivacaine was left to the preferred anaesthesia for team. The informed consent was signed by every patient before contributing in the analysis. The intestinal preparation were done and antibiotic prophylaxis was given.

In open or Milligan-Morgan method, the cuts remained open; though, excision in closed or Ferguson technique was more conventional and using 2/0 continuous chromic suture the wounds were approximated. On the first postoperative day; in both groups the packs were removed. Postoperative treatment included warm-water baths, high-fiber diet and local anaesthesia. Subjectively, postoperatively pain was measured and subjects were asked to return to normal activity level. Pain intensity recording was not performed. The analgesia requirement was also considered in the postoperative period. The wound infection and wound healing time were noted and observed. If one of the following indicates, the wounds are labelled as infected; slag discharge, redness or foul odour. If no infection showed signs of secretion, the wounds were healed and the skin and mucosa edges were approximated. The volunteers were then followed at the outpatient clinic at 7th day, one month, two months intervals and last visit for 3 months. All variables were evaluated at every follow-up. For three months; all patients were follow-up. The analysis was finished when there were fifty subjects in both groups who completed the follow-up.

RESULTS:

117 total patients were included in the study. The 43.5 years was the average age of patients. Male sex was dominant without any gender difference (61.5%). Anaesthetic risk was 88% in ASA I-II and 12% in ASA III. There was no important difference among both groups.

The technique of anaesthesia was spinal anaesthesia in ninety two patients and were converted to general anaesthesia in eight patients and there was no associated anaesthetic complication or operative mortality. Mean operative time was twenty-four minutes in group A (Milligan Morgan) and in group B (Ferguson) it was half an hour. After rectal packing was taken out on the first day, less analgesia was required by Group B and were early mobilized, with 3 days hospital stay in A and 2 days in group B. Pain

relief configuration exhibited that there was almost no pain and no analgesia on day 16 in 40 of 50 patients in

Group B. All these patients were fully mobilized to preoperative activity levels.

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/Faecal 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

The healing time was six to eight weeks for closed haemorrhoidectomy, four to six weeks post-operatively for open haemorrhoidectomy. The wound infection noted in 2 open haemorrhoidectomy patients and 1 closed patient and in 4 patients post-operative bleeding was noted in open haemorrhoidectomy and no case in closed one. Anal stenosis was observed in 2 open haemorrhoidectomy patients and 1 closed haemorrhoidectomy patient shown in Table I.

DISCUSSION:

The lining of the anal canal is much innervated tissue in the GIT and therefore pain after haemorrhoidectomy is most likely. After an open haemorrhoidectomy, the anal canal exposed area has been shown to cause pain and impaired healing of wound compared to Ferguson's closed haemorrhoidectomy [10].

Analgesic pain was observed in Group B, which were done with closed haemorrhoidectomy (Ferguson). Of the 50 patients, (96%) 48 were completely relieved and did not use any analgesia. In Group A, 50 (39) patients (78%) were evaluated as given high dose of analgesics [11]. The results of this study revealed some contradictions with Johannsson of Sweden, which showed important variation in postoperative pain among the 2 groups of patients studied in 2006. Arroyo showed the same result in 2004 without vast difference in pain [12]. In one month follow-up, complete recovery was seen in 71% of the closed haemorrhoidectomy group (110 patients) and 56% of the open haemorrhoidectomy group (116 patients). This study results showed 82% (41 patients) improvement in the closed haemorrhoidectomy group 54 % (27 patients) in the open group. In the Arroya

study, which confirmed the results of the present study, 40% of patients in group A (Open) and 90% of those in group B showed complete recovery after 1 month¹³. Gençosmanoglu observed similar results in Group B (Off) 2.8 ± 0.6 weeks recovery time was much shorter in closed group. In the open group 3.5 ± 0.5 weeks. Arbman showed that 86% of Ferguson patients completely healed the wounds and none showed signs of infection after a three-week study in 2000. Only 18 percent of Milligan-Morgan patients healed the wounds completely, symptoms of late recovery were significantly more frequent, and one patient had superficial wound infection [14]. In a study published by Rafiq, after a closed haemorrhoidectomy three weeks later, 70 percent completely healed the wounds and open haemorrhoidectomy healed completely 15 percent. The long-standing incidence of serous secretion was higher in unhealed closed wounds and in open wounds in pruritus and granuloma. In one month follow-up, wound infection was observed in 5 (10%) of the open group and 1 (2%) of the closed group. Infection did not occur in one group in the Ferguson group at 2-month follow-up and in Milligan-Morgan group. Although not part of the objective evaluation, fecal smoothness / incontinence was observed in four in the open group and two in the close group. During the one-month follow-up, no patient complained of this problem. Other authors reported similar results [15]. Anal stenosis was observed in two cases in the Milligan-Morgan group in two and three (final) follow-up. No anal stenosis was observed in the Ferguson group. This contradicts the results observed by Gencosmanoglu.

CONCLUSION:

While closed haemorrhoidectomy yields better results than open haemorrhoidectomy, recurrence rates and complications are similar in terms of both techniques. Patient acceptance is higher for Ferguson technique.

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