

A Comparative Study of Open (Milligan-Morgan) Versus Closed (Ferguson) Hemorrhoidectomy – Our Experience.

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Abstract: Hemorrhoids are highly vascularized cushions forming discrete masses of thick submucosa, containing blood vessels, elastic and connective tissue within the normal anal canal. Hemorrhoidectomy is established surgical procedure for third and fourth degree haemorrhoids. There are two methods of hemorrhoidectomy - Milligan-Morgan technique which is more common and also called as open hemorrhoidectomy in which the wound is left open and healing occurs by secondary intention and closed/ Ferguson procedure in which the wound is closed with absorbable sutures.

Aim: To compare post operative pain and recovery in open (Milligan-Morgan) and closed (Ferguson) methods and evaluate optimum choice of the procedure for third or fourth degree hemorrhoids.

Study Design: Prospective randomized study.

Duration: Two years (Nov 2013 to Nov 2015). **Sample Size:** 80 cases (40 cases in each group). **Inclusion Criteria:** Patients with third and fourth degree hemorrhoids.

Exclusion Criteria: Patients with associated anal and perianal conditions like fissure in ano, inflammatory bowel diseases and rectal malignancy, portal hypertension were excluded from the study.

Results: Out of 80 patients 52 patients were male, suggesting higher male prevalence. Constipation was present in 80% of cases, suggesting important pathophysiological role in hemorrhoids. Mean hospital stay for open group was 4 days and closed group was 3 days. Post operative pain was seen in 20% in open group and 40 % in closed group. Pain was relieved earlier in closed group. 51% patients had completely healed wounds at 3 weeks in closed group in comparison to only 42% in open group. Time duration of surgery was much greater in closed group and it was 36.4 min as compared to open hemorrhoidectomy (21.4 min).

Conclusion: Open and Closed both type of Hemorrhoidectomies are Simple, Safe and effective for three/four degree hemorrhoids.

Keywords: Ferguson, Hemorrhoidectomy, Milligan-Morgan

I. Introduction

Haemorrhoids are one of the commonest diseases¹. Hemorrhoids play a significant physiologic role in protecting the anal sphincter muscles and augment closure of the anal canal during moments of increased abdominal pressure.⁵ Clinically evident bleeding arises from the perisinusoidal arterioles and are therefore arterial in nature.⁵ Symptoms from hemorrhoids are similar to other diseases and the differential diagnosis should include anal fissures, rectal prolapse, abscesses and fistulas, inflammatory bowel disease, and neoplasia. The clinical history provides clues to the etiology. Hemorrhoidal bleeding is common, but it is less common for patients to present with anemia.⁶ Due to the wide array of pathology, a thorough examination is required. An anoscopy should be performed to identify internal hemorrhoids or fissures. A rigid or flexible sigmoidoscopy may rule out the presence of rectosigmoid neoplasia, proctitis, or Irritable Bowel Disease.

There are various methods for management of hemorrhoidal disease are present, Office procedures like rubber band ligation , sclerosant injection treatment are aimed at first and second degree hemorrhoids but presents with postoperative discomfort, pain and mucosal ulceration and recurrence. A formal excision is felt to offer the least problems with recurrent symptoms from external disease and grade 3 and 4 internal disease. Therefore therapy is to be individualised according to degree of piles, patient's symptoms and associated conditions.

The conventional open technique was described by Milligan and Morgan in 1937, and the closed technique was described by Ferguson in 1959^{8,9}. However, the Milligan-Morgan open excision hemorrhoidectomy remains the more commonly performed operation. The low expense and ease of technique makes it the procedure of choice, even though many newer procedures have subsequently been proposed. Ferguson's closed hemorrhoidectomy has gained considerable attention because of the less pain, faster wound healing and better patient compliance, and is now the procedure of choice in many countries.

Therefore, we propose to compare the outcomes following hemorrhoidectomy by the open and closed techniques.

II. Materials And Methods

This is a prospective randomized clinical study of management of third and fourth degree hemorrhoids by open (Milligan-Morgan)/closed (Ferguson) hemorrhoidectomy. The aim is evaluation of the post-operative pain, wound healing, post operative recovery, complications and follow up. This study has been done from Nov 2013 to Nov 2015. Eighty (80) patients with symptomatic and confirmed third/fourth degree hemorrhoids admitted in the surgical unit at medical college were included in this study. They were allocated randomly to open or closed hemorrhoidectomy.

2.1 Inclusion Criteria: All patients with symptomatic and confirmed third/ fourth degree hemorrhoids.

2.2 Exclusion Criteria: Patients with associated anal and perianal conditions like fissure in ano, inflammatory bowel diseases and rectal malignancy, portal hypertension. In this study 40 patients underwent open and 40 patients included in closed Hemorrhoidectomy.

2.3 Post-Operative Course: All the patients were treated post operatively with analgesics, antibiotics and laxatives. All patients were allowed orally the same day. Patients observed for pain. Patients were also observed for bleeding, discharge, urinary retention postoperatively. Patients were discharged depending upon their comfortness and wound condition. The average hospital stay in each technique was recorded. Patients were reviewed after three weeks, one month, and subsequently reviewed after two months to six months. They were asked about their complaints and examined. Digital rectal examination and proctoscopy was done on each visit.

III. Results

Eighty patients were selected and randomly allocated to the procedure, 40 in each group. The age ranged from 15 years to 85 years. Age distribution is given in Table 1. The most common presentation of hemorrhoids in this study was bleeding per rectum seen in all cases, constipation was present in 80% cases. Pain was main post-operative complaint in both groups with 40% in closed hemorrhoidectomy and 20% in open group. Incidence of bleeding were found more in open hemorrhoidectomy but both complaints were statistically non significant. Discharge was present in very few no. of patients with <5% incidence. Time duration of surgery was one of most significant finding observed in comparison of two techniques and results are consistent with other studies. We found that in closed group time taken in surgery was much greater, which was 36.4 min and in open hemorrhoidectomy time duration was 21.4 min. Time taken in open hemorrhoidectomy is statistically significantly lower as compared to closed hemorrhoidectomy with p value of <0.001.

On follow up pain was less in patients who underwent closed hemorrhoidectomy. Wound healing was complete in 30 (75%) patients in closed group at 3 weeks, in comparison to 25 (62.5%) patients in open group. On follow up at 3 months wound healing was comparable in both the groups. The mean duration of hospital stay for patients with closed hemorrhoidectomy was less, 3.8 days compared to 5.2 days in patients with open group.

IV. Discussion

Hemorrhoids is a common disease in our society. Third and fourth degree haemorrhoids require surgery.

Table 1. Age & Gender distribution of open & Closed group

Parameter	Open Group	Closed Group
No.of Patients	40	40
Mean Age	43.53	42.70
Sex		
Male	25	27
Female	15	13

Hemorrhoidectomy can be done by two methods open (Milligan- Morgan) and closed (Ferguson) hemorrhoidectomy. This study was conducted to compare two procedures – open (Milligan-Morgan) and closed (Ferguson) hemorrhoidectomy and evaluate the optimum procedure for third and fourth degree hemorrhoids with regards to post operative pain, discharge, wound healing and hospital stay. In our study, we found that more number of patients presented with hemorrhoids in the age group of 41 to 50 years. Early presentation can be attributed to the changing dietary habits and lifestyle modifications leading to chronic constipation and straining for defecation and micturition. In our study male predominance was seen over females. Hemorrhoids are common in female, but due to their reluctant shy nature and fear for surgery most of the female population do not approach for any treatment and remain undiagnosed.

The most common symptom was bleeding per rectum, which was present in all patients. Constipation was found in 80% cases.

Most of the patients experienced pain following hemorrhoidectomy but it was more (40%) in closed group than those who underwent open hemorrhoidectomy (20%). These results were comparable to other studies. Long term pain complaints are negligible and statistically insignificant in both groups.

In our study more patients (51%) had completely healed wounds following closed hemorrhoidectomy as compared to (42%) open group after three weeks. In study conducted by 7,8, wound healing following closed hemorrhoidectomy was 75% and 86% respectively and healing rates following open hemorrhoidectomy were 18% in both studies. There is delayed wound healing following open hemorrhoidectomy because the larger areas of anal canal walls are excised and left open. These wounds are contaminated during defecation causing the delay in healing.

Healing at 3 months in our study was comparable in both open and closed groups. The result of our study is also comparable with other studies. The average hospital stay for patients in open group was 5.2 days and closed group was 3.8 days in our present study. The shorter duration of stay in hospital, cost effectiveness and reliable outcome improves the patient compliance. The results of hospital stay in our study were comparable with study conducted by 10 which also suggested 5 days for open group and 4 days for closed group. The data was analyzed using unpaired 't' test with significant p value ($P < 0.01$)

V. Conclusion

Although Open and closed hemorrhoidectomy are traditional techniques for hemorrhoids. It is clearly apparent that both techniques are fairly effective and having no serious drawbacks in terms of long term patient outcome and satisfaction. Both procedures are easy to perform without requirement of any costlier instruments and operating room setup. Time duration of surgery was significantly less in open hemorrhoidectomy but 15- 20 minutes more intraoperative time does not pose any significant morbidity to patient as both surgeries can be performed under spinal anaesthesia.

In conclusion, we can say that open and closed both types of hemorrhoidectomies are simple, safe and effective method for treatment of hemorrhoids.

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