

## Open Versus Closed Hemorrhoidectomy: Surgical Outcome

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**Abstract:** This is a comparative study between Open and Closed Hemorrhoidectomy. The comparison has been done with postoperative pain, bleeding, operating time, duration of stay and wound healing in patients undergoing open and Closed Hemorrhoidectomy. Ten patients (7 males & 3 females), admitted between Jan 2013 to Dec 2013 diagnosed as external haemorrhoids who underwent open/closed haemorrhoidectomy under spinal anesthesia at Shivamogga Institute of Medical Sciences(SIMS), were selected. Median age of patients admitted for open haemorrhoidectomy was 42.6 years and 43.1 years is median age in patients posted for closed hemorrhoidectomy. Out of 10 cases 6 were assigned for open haemorrhoidectomy and 4 were assigned to closed haemorrhoidectomy. Mean operating time in open hemorrhoidectomy was 45 mins and in closed hemorrhoidectomy 60 min. Early postoperative mild bleeding was noted in two patients in open haemorrhoidectomy as compared to one patients in the closed group . The pain scores were significantly low in the open group compared to closed haemorrhoidectomy procedure. Hence better outcome in terms of less post-operative bleeding and complete wound healing is provided by closed haemorrhoidectomy , but it is associated with more pain and requires longer operative time as compared to open haemorrhoidectomy.

**Keywords:** Closed Hemorrhoidectomy, hospital stay, Open Hemorrhoidectomy, Post-operative pain, Post-operative bleeding.

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### I. Introduction

Haemorrhoids are defined as dilated plexus of superior haemorrhoidal veins in relation to the anal canal [1]. It is common disease affecting people of all ages and both sexes [2]. It has been estimated that 50% of the population has haemorrhoids by the age of 50 years [3] and these are supposed to be the commonest cause of rectal bleeding[4]. It is more common in the prosperous societies, perhaps related to exercise; diet and bowel habits[5]. Grade I and II hemorrhoids are treated by conservative medical therapy and it is usually successful, but grade III and IV hemorrhoids require surgical management.

The therapeutic options include rubber band ligation, injection sclerotherapy, etc[6]. Various techniques for hemorrhoidectomies are performed which includes open (Milligan Morgan), sub mucous resection (Park), closed (Hill-Ferguson) or by stapled techniques. Closed haemorrhoidectomy is the one in which excision of the haemorrhoids is followed by primary suturing of the mucosal and skin edges with absorbable suture material like catgut. This method is stated to be better regarding healing time and other postoperative complications like bleeding and post-operative wound infections [7,8,9]. Open haemorrhoidectomy is traditional treatment of haemorrhoids and is widely practiced in most of the hospitals. In this technique haemorrhoidal tissue is excised and wound is left open to heal by secondary intention. This study was undertaken to find out results of two techniques.

Haemorrhoidectomy is associated with significant complications including pain, bleeding and wound infection which can result prolonged hospital stay [10]. Infected external haemorrhoids were treated preoperatively by appropriate antibiotics, analgesics, foot elevation, saline packs, and local applications of analgesic cream, laxatives and regular sitz bath.

The objectives of this study is to compare postoperative pain, bleeding, operating time, hospital stay and wound healing in patients undergoing open and closed haemorrhoidectomy.

### II. Materials And Methods

Study was conducted at SIMS from Jan 2013 to Dec 2013. Only selected 10 cases were chosen for the study which includes Male:Female ratio of 7:3, Diagnosis was confirmed by a complete history and examination, both digital rectal examination and proctoscopy .After confirmation of diagnosis of 3rd and 4th degree hemorrhoids, randomly 6 patients were assigned to open haemorrhoidectomy and 4 patients were assigned to closed haemorrhoidectomy . Amongst patients who were posted for closed haemorrhoidectomy, one patient had infected haemorrhoids and this case was treated on conservative basis by foot end elevation, saline

pack over haemorrhoidal mass, sitz bath local anesthetic agent xylocaine, laxatives ,analgesics, antibiotics, anti-edema agents .Later after control of infection patient was posted for closed haemorrhoidectomy.

Patients with concomitant ano-rectal disorder like anal fissure, fistula, perianal abscess, ulcerative colitis, Crohn's disease and rectal cancer were excluded. However patients with chronic disorder like diabetes mellitus, hypertension and ischemic heart disease were included in the study.

Baseline investigations like Complete Blood Counts (CBC), routine examination of urine, random blood sugar, urea, creatinine, chest X-rays and ECG were done. Suture materials used for surgery were chromic catgut and vicryl.

Data was tabulated and unpaired student t test was used to compare bleeding, hospital stay and post operative pain between the two groups.

### **III. Discussion**

Anal canal is one among richly innervated tissue in the digestive tract. Thus, pain after haemorrhoidectomy is certainly an expected postoperative outcome. A great deal of emphasis has been applied to the management of pain after haemorrhoidectomy, not only because of the pain but also because of its role in urinary symptom[11].

The over enthusiastic use of intravenous fluids during the procedure may contribute to the high incidence of urinary retention[12],as will spinal anaesthesia. Several studies have attempted to identify the various approaches to post –haemorrhoidectomy pain reduction. Although stapled haemorrhoidopexy is applicable for treating reducible haemorrhoidal prolapse[13] and is associated with less post-operative pain but is also associated with a number of reported complications[14,15]. The choice of surgical technique has also been a subject of considerable debate. The exposed area of the anal canal following open haemorrhoidectomy has been implicated as the cause of the pain. For this reason, closed haemorrhoidectomy has been advocated, although the cost per patient and morbidity did not show any statistically significant differences between the open and closed methods of haemorrhoidectomy[16].

The Ferguson closed haemorrhoidectomy has reportedly been associated with less post-operative discomfort, faster healing, intact postoperative continence, and no need for subsequent anal dilation. Similarly, McConnell and Khubchandani reported a small incidence of postoperative pain, infection, and faster healing [17].

Wound healing was considerably faster in patients operated on by the Ferguson technique and there was no reduction in postoperative pain. In another randomised trial, Carapeti showed that there was no significant difference in the mean pain scores between the open and closed haemorrhoidectomy techniques[18].

In yet another prospective, randomised trial, Gencosmanoglu et al reported that the open technique is more advantageous, in that patients experience less discomfort during the early post-operative period, although the healing time was shorter with the closed technique[10].

In our study, early postoperative bleeding was noted in Three patients in open haemorrhoidectomies , compared to one patient in closed group. Post-operative pain was bit prolonged in patients with closed haemorrhoidectomy than patients in open haemorrhoidectomy . Pain full daefecation is experienced in patients with closed haemorrhoidectomy which required large bolus of laxatives and analgesics in the form of injection and suppositories . Hospital stay was less in closed haemorrhoidectomy but regular follow up in OPD's revealed common complaint as pain in closed haemorrhoidectomy .

### **IV. Figures And Tables**



*Fig 1: External haemorrhoids,*



*Fig 2: Infected prolapsed haemorrhoids.*



Fig 3: showing open haemmoridectomy



Fig 4: showing closed haemmoroidectomy

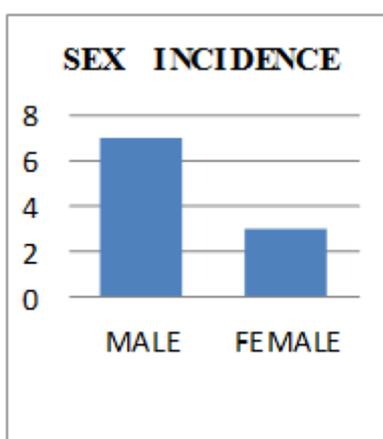


Table 1: Distribution of sex in study population.

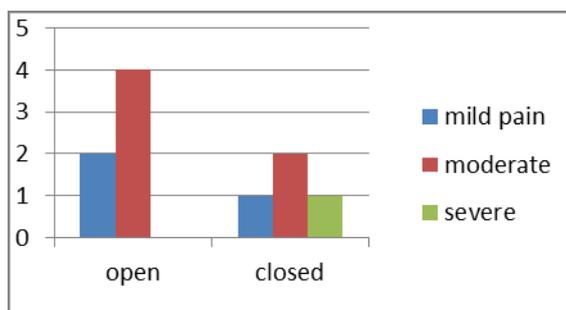


Table 2: Comparison of pain in both groups.

### V. Conclusion

Total of 10 selected patients were assessed, 6 were assigned for open haemorrhoidectomy and 4 were assigned to closed haemorrhoidectomy. The age range of study population was 30-50 yrs. In patients assigned for open haemorrhoidectomy the median age was 42.6 yrs and the median age in patients posted for closed haemorrhoidectomy was 43.1 yrs. out of 10 cases 7 were males and 3 were females.

Mean operating time in open haemorrhoidectomy was significantly shorter, 45 min and in closed hemorrhoidectomy was 60 min.

Closed haemorrhoidectomy patients showed complete wound healing after 2 weeks as compared to only 3 patients in the open group. Early mild postoperative bleeding was noted in 2 patients in open haemorrhoidectomy as compared to 1 patient in the closed group. The post operative pain was significantly low in the open compared to closed haemorrhoidectomy group.

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