Comparison of Pain and Bleeding After Open and Closed Haemorrhoidectomy

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ABSTRACT

Objective — *To compare closed and open haemorrhoidectomy by terms of post-operative pain and bleeding.*

Study design — *Comparative study.*

Place & Duration of study — Department of Surgery Peoples University of Medical & Health Sciences, Nawabshah f*rom May 2011 to October 2011.*

Methodology — *All the patents with established diagnosis of haemorrhoids were divided equally into two groups. The group I was treated with open haemorrhoidectomy while closed haemorrhoidectomy was done in group II. Post-operative pain and bleeding scores were recorded for 3-days in immediate post-operative period and at first and 2nd week follow-ups. Pain scores 0-3 (0=none,1=mild, 2=moderate, 3=severe) and bleeding scores 0-2 (0=none, 1=slight, 2=severe) were documented for each patient.*

Results — *Total of 60 patients were recruited. Thirt underwent open and same number had closed haemorrhoidectomy. There were 45 (75%) males and 15 (25%) females. The mean age was 45 year with a male to female ratio of 3:1. Mean pain score for the open haemorrhoidectomy was 1.73 + 0.09 (p< 0.0001), while for closed haemorrhoidectomy 0.96 + 0.64 (p< 0.0001). The mean bleeding score in open group was 1.03 + 0.427 (range 0.6 - 1.8) and in closed group 0.52 + 0.388 (range 0.2 - 1.6).*

Conclusion — *Closed haemorhoidectomy was associated with significantly less pain and bleeding than open haemorrhoidecctomy.*

Key words — *Haemorrhoidectomy, Closed haemorrhoidectomy, Open haemorrhoidectomy.*

INTRODUCTION:

Haemorrhoids and their symptoms are one of the most common afflictions which a general surgeon has to deal with in his daily practice.[1] Haemorrhoids are dilated veins in relation to anal canal.[2] It is common disease affecting people of all ages and both sexes.[3] Haemorrhoids may be found in as many as 88% of people undergoing endoscopic examination of rectum for various indications.[4] Treatment of haemorrhoids is as old as mankind itself and has retained a controversy amongst surgeons all over the world. Majority of patients can be managed by conservative treatment, rubber band ligation, Injection sclerotherapy, infrared photocoagulation and cryotherapy.[5] All of them have been used with some success but shown to be inferior to surgery.[6]

For the last many decades surgeons choice of technique is primarily based on personal experiences that results in good outcome.[7,8] Open haemorrhoidectomy (OH) gives good results but is associated with many complications. Alternative to this approach are various forms of closed haemorrhoidectomy (CH) techniques in which excision of haemorrhoids is followed by primary suturing of the mucosal and skin edges. This approach has many advantages.[9] We conducted this study to compare the two above mentioned operative procedures.

METHODOLOGY:

This comparative study was conducted from

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May 2011 to October 2011 at the Department of Surgery Peoples University of Medical & Health Sciences, Nawabshah. A non – probability, convenience mode of sampling was adopted. Patients with late second and third degree haemorrhoids were included. Patients having strangulated and thrombosed piles were excluded. A careful history was taken and detailed physical examination including proctoscopy was performed. After taking fitness for administration of general anaesthesia and consent, patient was put on elective operative list for open / closed haemorrhoidectomy. Patients were divided into two groups irrespective of their age and gender. Group-1 patients (n=30) underwent closed haemorrhoidectomy and group-2 patients (n=30) subjected to open haemorrhoidectomy.

Post operative care was standard for every patient and included sitz bath, fiber supplement, laxative and regular analgesia. All patients received antibiotic cover for first three post-operative days. Patients were examined after the first week and then on second week of the surgery. Pain scores 0-3 (0=none,1=mild, 2=moderate, 3=severe) and bleeding scores 0-2 (0=none, 1=slight, 2=severe) were documented for each patient.

A prototype was created on SPSS version 10 for data entry. All parameters were entered including bio-data, procedural details and post-operative parameters. Data were analyzed by using SPSS version 10. Descriptive statistics like mean, frequency, percentage were computed for data presentation. Spearman's rank correlation was computed for linear relationship between pain and bleeding scores. Student t- test was applied to compare mean of pain and bleeding scores between the study groups at the level of statistical significance $p < 0.05$.

RESULTS:

A total sixty patients underwent elective haemorrhoidectomy during the study period. Most of the patients were males (n=45 -75%). Male to female ratio was 3:1. The mean age was 45 year (range 35-55 year). Most of the patients were over 40 year of age. Bleeding per rectum was the most common complaint being present in all cases, followed by something coming out from anus in 15 (25%) patients. A smaller number of patients presented with the complaint of pain during daefecation (n=10-16.6%), anal discharge (n=8 - 13.3%) and perianal irritation (n=8 - 13.3%). Twenty five (41.6%) patients were found to have late second degree and 35 (58.4%) patients had third degree haemorrhoids.

The average pain-score in the closed group was 0.96 + 0.64 (range 0.2 - 2.6). Mean pain score in the open group was 1.73 + 0.69 (range 0.8 - 3.4). The difference was statistically significant ($p<0.0001$). The mean bleeding score in open group was 1.03 + 0.427 (range 0.6 - 1.8). The mean bleeding score in closed group was 0.52 + 0.388 (range 0.2 - 1.6). Statistical analysis (student t-test) showed that the difference was statistically significant ($p<0.0001$). The test of linear co-relation (Spearman's rank correlation) was applied for relationship between the study groups regarding pain score and bleeding score, which showed significant correlation of pain and bleeding score between the groups (table I).

DISCUSSION:

The first or second degree haemorrhoids were conventionally treated as outpatient procedures and surgery usually reserved for complicated haemorrhoids and third and fourth degree piles.[10] Little was done to test the efficacy of either. Evidence shows that these outpatient procedures have a high initial failure rate, a high rate of recurrence in long term and a possible association with occasional adverse and sometimes life-threatening complications.[11] With the introduction of tissue reducing techniques and the advent of the now ubiquitous clinical trial the scene has entirely changed.

Parks described the technique for closed haemorrhoidectomy.[12] Theoretical advantages of closed technique are many. It has been projected to cause less pain, less bleeding and early healing. Also the incidence of post-operative stricture is too low. However, on the negative side, it is a

Table I: Comparison of Pain and Bleeding Score In Open and Closed Haemorrhoidectomy

Parameters	Open haemorrhoidectomy Mean + S.D (n=30)	Closed haemorrhoidectomy Mean + S.D (n=30)	t-value	P-value
Pain	1.73 + 0.69	0.96 + 0.64	-4.44	P<0.0001*
Bleeding	1.03 + 0.427	0.52 + 0.388	-4.87	P<0.0001*

*Shows statistical significance at P<0.05

time-consuming process and requires meticulous dissection and haemostasis. In addition, recurrences are more frequent than the open procedure.

Several studies have been conducted to compare the two techniques. We found a statistically significant difference between pain and bleeding scores between the two groups, with closed haemorrhoidectomy being associated with less scores for both parameters. However, the difference per se was too small. This could be attributed to an inherently narrow range of scales for both pain and bleeding (0-4 and 0-2 respectively) that we employed in our survey. Several international studies have found no difference between the two techniques as far as bleeding and pain are concerned. Carapeti,[8] Ho,[13], Ibrahim,[14] Rafiq K[15] found no difference for the parameters mentioned above. In a study, conducted by Kim et al the pain score was significantly lower in closed group than in open one.[16] Studies y done by Jan WA et al[17] and Malik GA et al[18] also support our observation of less post operative pain and bleeding after closed hemorrhoidectomy compared with open technique.

Although several interviewers were involved, there was no blinding i.e. all the interviewers knew at the time of follow-up as to what type of procedure had been done. Some degree of bias was thus inherent in the study design and was unavoidable as the knowledge of the nature of the operation could not have been hidden from the patient records.Although several interviewers were involved, there was no blinding i.e. all the interviewers knew at the time of follow-up as to what type of procedure had been done. Some degree of bias was thus inherent in the study design and was unavoidable as the knowledge of the nature of the operation could not have been hidden from the patient records.

When considering bleeding scores, no assessment was made as to the nature / cause of the bleeding. Dump bleeding, well recognized as an acceptable cause of ooze after haemorrhoid surgery, might have been behind a great many of our cases of bleeding. Finally, this study was conducted for short duration. The follow-up was four weeks at the maximum. Although early failures could be ruled out in this time-frame, it is too premature to comment on a recurrence of the piles, which we feel should be studied as a differentiating factor between various categories of haemorrhoidectomy procedures available to the surgeons.

CONCLUSIONS:

There was a statistically significant trend of less pain and bleeding in the closed haemorrhoidectomy group compared to the open procedure. Also, significant correlation was found between pain and bleeding in each group.

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