

A COMPARATIVE STUDY OF VARIOUS TYPES OF HEMORRHOIDECTOMY

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ABSTRACT

Objective: To compare the outcome of various operative procedures of hemorrhoidectomy.

Material and Methods: This comparative study was conducted in Surgical Department, LRH, Peshawar, from March to December 2005. Ninety patients with 2nd and 3rd degree internal hemorrhoids, were randomly divided in to three groups of 30 patients each: "Group A" low ligation and excision with anal stretch. "Group B": low ligation and excision without anal stretch. "Group C": closed hemorrhoidectomy.

Results: Postoperative pain was present in 4 (13.33%) cases in "Group A" and 3 (10%) cases each in "Group B" and "Group C". Postoperative bleeding per rectum was present in 2 (6.66%) cases each in Group A and Group B and 1 (3.33%) case in Group C. Postoperative urinary retention was observed in 1 (3.33%) case each in Group A and group B only. Postoperative wound infection and Postoperative perianal abscess were recorded in 3 (10%) and 1 (3.33%) patients respectively in Group C only. Postoperative incontinence of flatus was reported in 1 patient (3.33%) of Group A only. Postoperative skin tags were seen in 2 (6.66%) cases of Group A, 1 (3.33%) case in Group B, and none in Group C. Recurrence was not observed in patients during follow up. Mortality was not encountered in the three groups.

Conclusion: No statistical significance was found in these three operative procedures with respect to less pain during the early postoperative period and faster wound healing with no recurrence in any group

Key words: 2nd, 3rd Degree Hemorrhoids, Closed-Hemorrhoidectomy, Dissection Hemorrhoidectomy.

INTRODUCTION

Haemorrhoids [Greek: haima means blood, rhoos means flowing; synonym: piles (Latin: pila means a ball)] are dilated veins occurring in relation to the anus.¹ Within the normal anal canal exist specialized, highly vascularized "cushions" forming discrete masses of thick submucosa containing blood vessels. Cushions are located in the left lateral, right anterior, and right posterior quadrants of the canal to aid in anal continence. The term "haemorrhoids" should be restricted to clinical situations in which these cushions are abnormal and cause symptoms.² Haemorrhoids are graded by the degree of prolapse, and this grading determines the most appropriate methods of treatment. First degree haemorrhoids are merely visible vessels, second degree lesions are prolapse with defecation but return spontaneously, third degree lesions prolapse and require manual replacement, and fourth degree

lesions remain prolapsed out of the anal canal despite attempts to reduce them.^{3,4} Haemorrhoids occur in up to 80% of the population involving any age and affecting both males and females equally.⁵ The disease should be thought of as haemorrhoidal tissue that causes significant symptoms. Unfortunately, haemorrhoids tend to get worse over time, and disease should be treated as soon as it occurs. Proposed aetiological factors include constipation, prolonged straining, derangement of the internal anal sphincter, and in patients with chronic increased intra-abdominal pressure such as in chronic obstructive air-way disease and in pregnancy.^{5,6} Nowadays, modern as well as traditional drugs are being increasingly used in all grades of symptomatic haemorrhoids. These drugs (oral or local) are used as a part of conservative management or as an adjuvant to invasive outpatient procedures. However, drug treatment is not aimed at curing haemorrhoids. The

PRE-OPERATIVE DEMOGRAPHIC FEATURES OF PATIENTS

Variables	No. of Patients (n=90)	%age
AGE		
18-30 years	28	31.11%
31-40 years	20	22.22%
41-50 years	14	15.55%
51-60 years	28	31.11%
SEX		
Male	76	84.44%
Female	14	15.56%
CLINICAL FEATURES		
Prolapse	82	91.11%
Bleeding per rectum	77	85.55%
Family history of hemorrhoids	37	41.11%
Constipation	31	34.44%

Table 1

prime objective of drug therapy is to control the acute phase (bleeding) so that definitive therapy (injection sclerotherapy, banding, infrared photocoagulation, cryotherapy, or surgery) can be scheduled at a convenient time.⁷ Treatment of haemorrhoids may be either surgical or non-surgical.⁸ Surgery is considered to be the best therapeutic treatment for advanced haemorrhoidal disease. Precisely, haemorrhoidectomy is the best answer to these types of haemorrhoids. It gives excellent long term results.^{8,9} The purpose of the study was to compare the various operative procedures of hemorrhoids and offer a technique which gives the best chance of permanent relief of their disease, with least complications and shortest hospital stay and with no recurrence.

MATERIAL AND METHODS

The study was conducted in Surgical "A" Unit of Postgraduate Medical Institute, Lady Reading Hospital, Peshawar from March 2005 to December 2005. A total of 90 patients with confirm diagnosis of 2nd and 3rd degree internal hemorrhoids, were selected for this study. All those patients with 1st and 4th degree internal hemorrhoids were excluded from the study. All the selected patients were admitted through out patients department (OPD). All the selected patients were randomly divided in to three groups:

"Group A": In this group 30 patients have been studied and low ligation and excision with anal stretch was done.

"Group B": In this group 30 patients were selected and low ligation and excision without anal stretch was done.

"Group C": In this group 30 patients were

selected for closed hemorrhoidectomy

After taking informed consent from patients, all these patients fulfilling the inclusion criteria undergone a thorough physical examination, detailed history and routine investigations. Digital rectal examination (DRE) and proctoscopy was also carried out in every patient along with other relevant investigations, for general assessment and to find out other anorectal lesions. Preoperative blood transfusion was given in some cases where indicated and suitable antibiotics were given to all before surgery. All these cases were operated on elective list. During surgery anal stretch was given to majority of patients and so the excised haemorrhoidal tissue was sent for histopathological examination. Though the sigmoidoscopy examination was mandatory part of the investigations but due to intermittent non-functioning of Flexible T-10 sigmoidoscope, it was not carried out in all cases. All the variables like, age, sex, hereditary factors, type of operative procedure, family history of hemorrhoid, clinical features, postoperative complications in three groups, hospital stay, cost of hemorrhoidectomy and follow up, etc. were analyzed for comparative statistics by using Chi-square test. The frequencies of these variables were determined using mean, median, mode and standard deviation. Data interpretation, calculations, tabulations and various other analytical procedures were done by SPSS for windows version 11. P value was calculated to find out the degree of significance <0.05.

RESULTS

A total of 90 patients with 2nd and 3rd degree internal hemorrhoids were included in this study. Out of 90 patients, 28 (31.1%) patients were in age range of 18-30 years, 20 (22.2%) patients were in age range of 31-40 years and 14 (15.6%) patients were in age range of 41-50 years (table 1). Mean age was 39.7 years. Out of 90 cases, 76 (84.44%) patients were male while 14 (15.6%) were females with a male to female ratio of 5.42:1. Majority of patients presented with prolapse (n=82/90, 91.11%) and bleeding per rectum (n=77/90, 85.6%). Out of 90 cases, 31 (34.44%) patients had constipation and straining during defecation, while 37 (41.11%) patients had strong family history of haemorrhoids (Table No.1). In "Group A" postoperative pain was present in 4 (13.33%) out of 30 cases, while in "Group B" postoperative pain was noticed in 3 (10%) out of 30 cases. In "Group C" 3 (10%) out of 30 cases had also experienced postoperative pain,. Postoperative bleeding per rectum was present in 2 (6.66%) cases of Group A and 2 (6.66%) cases of Group B. In Group C only 1

POSTOPERATIVE COMPLICATIONS IN THREE GROUPS OF HAEMORRHOIDECTOMY

Complications	Group "A" (n=30)	Group "B" (n=30)	Group "C" (n=30)
Postoperative pain	4 (13.33%)	3 (10%)	3 (10%)
Bleeding per rectum	2 (6.66%)	2 (6.66%)	1 (3.33%)
Retention of urine	1 (3.33%)	1 (3.33%)	-
Wound infection	-	-	3 (10%)
Abscess	-	-	1 (3.33%)
Incontinence (temporary)	1 (3.33%)	-	-
Skin tags	2 (6.66%)	1 (3.33%)	-

($X^2 = 0.560$, $P = 0.756$). Chi-square test was applied on this table but no statistical significance was found.

Table 2

(3.33%) case developed bleeding. Postoperative retention of urine was observed in 1 (3.33%) case in Group A, and 1 (3.33%) in group B, while none was observed in Group C. Postoperative wound infection developed in 3 (10%) patients of Group C; while in Group A and B none of the patients developed wound infection. Postoperative perianal abscess was not seen in Group A and Group B, while in 1 (3.33%) case of Group C this complication was developed. Postoperative incontinence of flatus was seen in 1 (3.33%) case of Group A, which was controlled within 6 weeks with pelvic exercise. None of the patients in Group A and Group B had incontinence. None of these patients developed faecal incontinence. Postoperative skin tags observed in 2 (6.66 %) cases of Group A, 1 (3.33%) case in Group B, while none was observed in Group C (Table 2). Though the postoperative follow up is very limited in our society due to certain reasons, but following percentage of patient came for follow up. Eighty four (90.33%) patients came for follow up in 1st week which falls up to 69 (76.66%) patients in 3rd week and remained 47 (52.22%) patients up to 6 weeks. Seven (7.77%) patients came in OPD for follow-up up to 6 months and had no complications (Table No. 3). Recurrence was not observed clearly due to limited follow-up. The recurrence was not seen in those patients who attended follow up OPD. Mortality was also not encountered in any case of hemorrhoidectomy in any group.

DISCUSSION

Hemorrhoidal disease is a very common and widespread disease, and it is estimated that about one subject out of three may suffer from this pathology. Hemorrhoids generally cause symptoms when enlarged, inflamed, thrombosed, or prolapsed. Internal hemorrhoids arise above the dentate line (in comparison to external hemorrhoids perianal phlebothrombosis) and are

covered by traditional or columnar epithelium.¹⁰ A number of new surgical treatments have led to a reappraisal of haemorrhoidal disease over the last few decades. Despite a range of treatment modalities, the options are limited in their effectiveness and can lead to a number of complications. An inadequate classification system based on appearance rather than symptoms makes the choice of appropriate therapy difficult.¹¹ Haemorrhoidectomy is currently the most effective treatment for prolapsing haemorrhoids. There is little evidence to support the use of one surgical technique over another.¹² Haemorrhoidectomy (Milligan Morgan) under local anesthesia as a day case, is a safe and effective way of reducing costs without increasing morbidity, mortality, and is acceptable to most patients.¹³ It has been estimated that 50% of the population has hemorrhoids by the age of 50 years.¹⁴ In our study the mean age of the patients was 39.7 years. Majority of patients was in the age range of 51 years above and in the range of 18-30 years respectively. The similar results have also been reported by other studies.^{8,15}

Hemorrhoids are more common in males than females. We found in our study the males to female ratio of 5.42: 1. In a local study of Shaikh AR and Ahmed I¹⁵, male to female ratio was 5:1, which is similar to our result. Various studies have reported different ratio rates but overall males outnumbered the females.^{8,16-18}

Bleeding, pain, soiling, and prolapse are the classic symptoms in hemorrhoid disease, but the patients sometimes report a variety of other

FOLLOW-UP PERIOD OF PATENTS

Follow-up Period	No. of Patients (n=90)	%age
1st week	84	90.33%
3rd week	69	76.66%
Up to six months	7	7.77%

Table 3

symptoms.¹⁹ In this study 4th degree prolapsed hemorrhoid was the second common clinical feature, while bleeding per rectum was also observed in majority of cases. Various other symptoms like strong family history of hemorrhoid disease, constipation, were also observed in various proportions. Similar clinical features with little difference are also reported in few studies.^{8,18-20} Postoperative complications after surgical treatment of hemorrhoids are common. Bleeding and wound infection may affect the postoperative course following hemorrhoidectomy and cause discomfort to the patients.²¹ In our study postoperative pain was present in 13.33% of cases of group A, 10% in group B and 10% in group C respectively. The other studies have been reported much more higher postoperative pain than our study. In few studies 100% postoperative pain was reported in hemorrhoidectomy group.^{15,22} In a recent local study the pain was present in 80% of patients of haemorrhoidectomy group.¹⁶

Postoperative bleeding per rectum occurred in Group A 6.66% cases, in group B 6.66% cases and in group C 3.33% cases. Shaikh AR and Ahmed I¹⁵ has reported bleeding in 5% of patients in hemorrhoid group, while Jan WA and colleagues⁸ reported 2-5% bleeding in their patients which is closer to our result. Other studies reported higher frequencies of postoperative bleeding per rectum e.g. Ali U and Samad A¹⁶ reported bleeding in 12% of patients in group A.

Skin tags occurred in 6.66% cases of group A and 3.33% in group B, while none occurred in group C. Urinary retention observed in 2.22% patients, 3.33% in group A and 3.33% in Group B, while none observed in group C. In other studies urinary retention occurred in 56% of patients in hemorrhoid group as reported by Ali U and Samad A.¹⁶ Uba AF and associates¹⁷ reported that postoperative retention of urine was the commonest complication occurring in 20% of patients of hemorrhoid group. In this study postoperative perianal abscess observed in Group C 3.33% cases. Jan WA and colleagues⁸, Shaikh AR and Ahmed I¹⁵, Ali U and Samad A¹⁶ have not reported any abscess in their studies. Recurrence and mortality was not observed in any case of our study due to limited follow up period of 6 months. No death also recorded in Shaikh AR and Ahmad I¹⁵ series.

CONCLUSION

In the light of our results it is concluded that open and close hemorrhoidectomy are effective methods for the treatment of haemorrhoids. No statistical significance was found in these three operative procedures with

respect to less pain during the early postoperative period and faster wound healing with no recurrence in any group. However, further research is required to establish their precise indications and long-term efficacy.

REFERENCES

1. Russell RCG, Williams NS, Balstrode CJK. The anus and anal canal: haemorrhoids. In: Russell RCG, Williams NS, Balstrode CJK, editors. Bailey and Love's short practice of surgery. 24th ed. London: Arnold, 2004: 1243-71.
2. Nelson H. Anus. In: Townsend CM, Beauchamp RD, Evers BM, Mattox KL, editors. Sabiston's textbook of surgery: The biological basis of modern surgical practice. 17th ed. Philadelphia: Saunders, 2004: 1483-1512.
3. Nisar PJ, Scholefield JH. Managing haemorrhoids. *Br Med J* 2003; 327: 847-51.
4. Pfenninger JL. Modern treatment for internal haemorrhoids: Scalpel surgery is now rarely needed [editorials]. *Br Med J* 1997; 314: 1211.
5. Ramzisham AR, Sagap I, Nadeson S, Ali IM, Hasni MJ. Prospective randomized clinical trial on suction elastic band ligator versus forceps ligator in the treatment of haemorrhoids. *Asian J Surg* 2005; 28: 241-5.
6. Brisinda G. How to treat haemorrhoids: Prevention is best; haemorrhoidectomy need skilled operators [editorials]. *Br Med J* 2000; 321:582-3.
7. Misra MC, Imlitemsu. Drug treatment of haemorrhoids. *Drugs* 2005; 65: 1481-91.
8. Jan WA, Ghani A, Khan K, Khan MI, Ali N, Israr. An experience of operating 115 cases of prolapsing haemorrhoids. *J Postgrad Med Inst* 2003; 17: 220-5.
9. Gupta PJ. Randomized trial comparing in-situ radiofrequency ablation and Milligan-Morgan hemorrhoidectomy in prolapsing hemorrhoids. *J Nippon Med Sch* 2003; 70: 393-400.
10. Pflieger J. Should we treat hemorrhoids according to the stage? *Acta Chir Iugosl* 2004; 51: 77-9.
11. Hardy A, Chan CL, Cohen CR. The surgical management of haemorrhoids - a review. *Dig Surg* 2005; 22: 26-33.
12. Cheetham MJ, Philips RK. Evidence-based practice in haemorrhoidectomy. *Colorectal Dis* 2001; 3: 126-34.
13. Labas P, Ohradka B, Cambal M, Olejnik J,

- Fillo J. Haemorrhoidectomy in outpatients practice. *Eur J Surg* 2002; 168: 619-20.
14. Orlay G. Haemorrhoids- a review. *Aust Fam Physician* 2003; 32: 523-6.
15. Shaikh AR, Ahmed I. Comparative study of haemorrhoidectomy with rubber band ligation for second and third degree haemorrhoid. *Specialist: Pak J Med Sci* 1995; 12: 39-45.
16. Ali U, Samad A. Rubber band ligation versus open haemorrhoidectomy: A study of 100 cases. *J Postgrad Med Inst* 2005; 19: 317-22.
17. Ubu AF, Obekpa PO, Ardill W. Open versus closed haemorrhoidectomy. *Niger Postgrad Med J* 2004; 11: 79-83.
18. Saleem SM, Arbab GR, Qayyum A, Goraya AA, Jamil A. Clinical presentation of haemorrhoidal disease. *Pak J Med Res* 2001; 40: 72-3.
19. Johannsson HO, Graf W, Pahlman L. *Am J Gastroenterol* 2005; 100: 401-6.
20. Holzheimer RG. Hemorrhoidectomy: Indications and risks. *Eur J Med Res* 2004; 9: 18-36.
21. Pescatori M. Two-quadrant semiclosed hemorrhoidectomy. A preliminary report. *Tech Coloproctol* 2002; 6: 105-8.
22. Kanellos I, Zacharakis E, Christoforidis E, Angelopoulos S, Kanellos D, Pramateftakis MG, et al. Usefulness of lateral internal sphincterotomy in reducing postoperative pain after open hemorrhoidectomy. *World J Surg* 2005; 29: 464-8.

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