

## Comparison between Open and Stapled Haemorrhoidectomy in the treatment of 3rd and 4th Degree Haemorrhoids at Surgical Unit II Shalamar Hospital Lahore

KHALID JAVED ABID, MUHAMMAD.GUL, MUHAMMAD NAWAZ AMIN, MUHAMMAD TAHIR SALEEM, SADAF ISHAQUE

### ABSTRACT

**Aim:** To compare the clinical long term complication of Stapled Hemorrhoidectomy versus Open Hemorrhoidectomy in term of Recurrence and Anal Stenosis.

**Place and duration of study:** Department of Surgery at Shalamar Hospital Lahore from March 2014 to February 2015.

**Methods:** Randomized Control Trial at Surgical Unit II, Shalamar Hospital Lahore.

**Results:** Out of total 50 patients there were 20(80%) male and 05(20%) female in stapled group A.while 17(68%) male and 08(32%) female in open group B. Based upon our study we suggest Stapled Procedure as an effective and valid option in treating 3rd and 4th degree hemorrhoids having low rate of recurrence and anal stenosis.

**Conclusion:** On the basis of our experience we went through our team suggests Stapled procedure an effective and valid procedure in treating 3rd and 4th degree hemorrhoids. It has low rate of long term outcomes (recurrence and anal stenosis) and overall an excellent patient's satisfaction regarding his/her symptomatic relief.

**Keywords:** Haemorrhoids, Milligan-Morgan Haemorrhoidectomy ,Ferguson Haemorrhoidectomy

---

### INTRODUCTION

Haemorrhoids are the most frequent<sup>1</sup> presenting anorectal disorders. They are considered to be the most common cause of bleeding occurred per rectally (hematochezia).It is thought that around 70% of adult population above 30 years of age is affected with this disease. It is more common in males<sup>2</sup> with maximal incidence of 45 to 65 years of age. Hemorrhoidal cushions (hemorrhoidal plexus) are part of normal human anatomy and become a pathological symptomatic disease<sup>3</sup> only when they experience abnormal changes. Classically there are three main cushions located at left lateral, right posterior and right anterior positions. They are composed of blood vessels called sinusoids, connective tissue and smooth muscle. Hemorrhoid cushions assist continence mechanism. Intra-abdominal pressure grows when a person bears down and size of hemorrhoid cushions increases helping to maintain anal closure.The exact causal mechanism for hemorrhoid symptoms is unknown. It is believed that they result when these vascular structures slide downwards or when excessive increase in venous pressure occurs as in straining at bowel movements, chronic constipation, prolonged coughing or sneezing, pregnancy etc. The dentate line divide

them into internal group of hemorrhoids which are formed by the superior haemorrhoidal plexus and external group of haemorrhoids formed by the inferior hemorrhoidalplexus. 1st and 2nd degree haemorrhoids are generally responsive to medical treatment including dietary alterations, stool softener, suppositories, increase intake of liquid, defecatory position and regular exercises. Other instrumental<sup>4</sup>treatments for 1st & 2nd degree haemorrhoids can be rubber band ligation, sclerotherapy, infra-red photocoagulation and cryosurgery.

Surgical treatment<sup>5</sup> is considered to be the best therapeutic modality for 3rd and 4th degree haemorrhoidal disease. Open and closed haemorrhoidectomy are the mostly used ones among the traditional options. Both are favored by surgeons due to their low post operative complications plus better symptomatic relief. But post operatively both results in severe pain oftenly because innervated anoderm gets incorporated in the wound bellow dentate line<sup>6</sup>.

Till date in last decades a lot of scientific work has been carried out for management of colorectal diseases but yet for treating haemorrhoidal disease there have been only few modifications. As an alternative to those traditional approaches stapled haemorrhoidopexy is nowadays practiced by many surgeons. It was introduced in 1998 by Antonio

---

Department of Surgery Shalamar Hospital Lahore  
Correspondence to Prof. Khalid Javed Abid Email:  
Email:profdrkhalid@gmail.com

Longo in which a circular stapler device is used. Above the dentate line it excises anorectal mucosa in a ring like strip and perform anopexy at the same time<sup>7</sup>. This technique is safe, quick and less traumatic with improved post-operative pain control but the cost of device may limit its use<sup>8</sup>. Here in case of stapled haemorrhoidectomy recurrence and complication rates are almost similar to those occurring in traditional procedures. Its another advantage is that in selected patients it can be performed on day care basis<sup>9</sup>. Sample size was of 50 patients in total were selected for this study. Including Group A - Stapled hemorrhoidectomy 25 patients and Group B - Open hemorrhoidectomy 25 patients.

## MATERIALS AND METHODS

This randomized control trial study was carried out in department of surgery, Shalamar Hospital Lahore from March 2014 to February 2015 .50 consecutive patients with 3<sup>rd</sup> and 4<sup>th</sup> degree haemorrhoidal disease were selected from outpatient department Shalamar Hospital Lahore. An informed consent was taken from the patient about study and operational procedure. A detailed history of presenting complains, physical examination, routine investigations & abdominal ultrasound done as and when required. Then randomly these patients were placed in 2 groups according to the surgical procedures utilized. Group A containing 25 patients received stapled hemorrhoidectomy while those in Group B were treated with open (Milligan-Morgan) hemorrhoidectomy. Intra venous 3rd generation cephalosporin was injected as prophylactic antibiotic. All procedures performed only by consultants were included in the study. Data was collected on specific proforma and was analyzed by "SPSS" version 11. Qualitative variables like gender, anal stenosis and recurrence were presented as frequencies and proportions while quantitative variables like age were presented as mean and standard deviation. A follow up for six months after surgery in each case completed.

## RESULTS

In this study a total of 50 cases were randomly allocated into open and stapled hemorrhoidectomy groups each containing 25 patients. All patients were later then followed-up and monitored at first week, three months and at six months after discharge from the hospital.

Age range of the patients was 20 to 60 years with the mean age of 41.60±11.76. The average age was mean±SD 39.0+11.67 years in group A and 44.20±11.12 years in group B. Out of total 50 patients

there were 20(80%) male and 5(20%) female in stapled group A. while 17(68%) male and 8(32%) female in open group B.

On admission besides other associated symptoms all patients were complaining of per rectal bleeding<sup>10</sup> and mucosal prolapse (symptoms of 3<sup>rd</sup>& 4<sup>th</sup> degree hemorrhoids Table 1 &2). In Stapled Group A there were 16 (64.0%) cases of third degree and 9(36%) cases of fourth degree hemorrhoids (Table 3) whereas in Open Group B there were 17(68%) cases of third degree and 8 (32%) cases of fourth degree hemorrhoids (Table 4).

All patients were discharged on second and third day of surgery with smooth postoperative recovery and no any major postoperative event except two patients of open hemorrhoidectomy group had wound bleeding which needed hemostatic suturing.

After 6 months of surgery all patients were followed, no patient needed a second procedure for recurrence within in 6 months although 1 patient (4.0%) was found with partial residual recurrence in Stapled Hemorrhoidectomy<sup>11</sup>. Group A which were managed by rubber band ligation. No recurrence in any patient of Open Hemorrhoidectomy Group B seen (Table 5). Rectal stenosis was seen in only 1(4%) patient of Open Hemorrhoidectomy Group A after six months of surgery (Table 6).

Table 1: Stapled group A (n=25)

Presentation	n	%age
Bleeding Per Rectum		
Yes	25	100
No	0	0
Mucosal prolapsed		
Yes	25	100
No	0	0

Table 2: Open group B (n=25)

Presentation	n	%age
Bleeding Per Rectum		
Yes	25	100
No	0	0
Mucosal prolapsed		
Yes	25	100
No	0	0

Table 3: Degree of Hemorrhoids in patients of Stapled Hemorrhoidectomy Group A (n=25)

Location	n	%age
Third	16	64
Fourth	09	36

Table 4: Degree of Hemorrhoids in patients of Open Hemorrhoidectomy Group B (n=25)

Location	n	%age
Third	17	68
Fourth	08	32

P=<0.07

Table 5: Recurrence (n=50)

	n	%age
Stapled Group A (n=25)	1	4%
Open Group B (n=25)	0	0

P=<0.07

Table 6: Anal stenosis (n=50)

	n	%age
Stapled Group A (n=25)	0	0
Open Group B (n=25)	1	4%

P=<0.07

## DISCUSSION

Although Stapled Hemorrhoidectomy has been used widely since 1998 but still there is limited long-term data available. The debate continues about the long term complications of stapled hemorrhoidectomy. A data representing the largest series of 654 patients (296 females) with long-term follow-up following stapled haemorrhoidectomy claims that stapled procedure is associated with a low 3.4% rate of reoperation for recurrence of hemorrhoidal prolapse<sup>12</sup>. It confirms that the operation is safe in experienced hands using appropriate patient selection. Another study at 6 months follow-up shows 6 of 140 patients (4.28%) who had localized residual mucosal prolapse<sup>7</sup>. Ganio et al. have reported recurrence in 10 out of 50 patients after stapled procedure<sup>13</sup>.

Our study of 50 patients (25 in each of Stapled and Open Group) has shown the difference between the two procedures in terms of post-operative outcomes such as recurrence and anal stenosis. After a 6 months follow up 2 patients (8%) in Stapled Hemorrhoidectomy Group presented with minor local recurrence which was managed by band ligation. None of the patient needed second surgery for recurrence. No recurrence was seen in Open Group. This partial residual recurrence in stapled procedure may be attributed to an incomplete circumferential doughnut of the resected mucosa. This happens when a segment of the mucosa skips from the applied purse string suture, hence it does not get engaged in the stapling device<sup>14</sup>. Also different entry and exit point of purse string suture resulting in a spiral can be another reason for an incomplete doughnut. This leads to discontinuity in the doughnut even though it was a complete circle.

Probably Stapled Hemorrhoidectomy is more dependent<sup>15</sup> on operator skills in identifying the amount of mucosa to be removed because this parameter varies according to the extent of prolapse. Thus occurring of residual prolapse in stapled hemorrhoidectomy is explained by this.

The anal mucosa does not get damaged in this stapled haemorrhoidectomy which is lifted up in the

anal canal by resection of a variable ring of insensitive mucosa of anal canal above the anorectal junction<sup>16</sup>. The surgery is done quite away 4cm above the dentate line with no damage to the sensitive anoderm and external anal sphincter, hence explains the less chances for post-operative pain, anorectal stenosis and fecal incontinence.

From the above results and discussion it can be concluded that stapled hemorrhoidectomy is a safe and reliable procedure<sup>17</sup> in treatment of 3rd and 4th degree hemorrhoids as it has a better outcome in terms of relief of patient's symptoms and fewer post-operative complications responding to conservative treatment. Stapled hemorrhoidectomy has high rates of early rehabilitation<sup>18</sup> with a low recurrence rate. In terms of anal stenosis the results showed greater incidence<sup>19</sup> in open hemorrhoidectomy (2%) but it was not statistically significant (P value .07).

## CONCLUSIONS

Hemorrhoids are a common anorectal condition which may get really debilitating especially when they are complicated<sup>20</sup>. Our goal was to compare and conclude the long term outcome of stapled hemorrhoidectomy versus open one in terms of recurrence and anal stenosis. Based upon our experience we suggest Stapled Procedure as an effective and valid option in treating 3rd and 4th degree hemorrhoids. It has low rate of long term outcomes (recurrence and anal stenosis) and overall an excellent patient's satisfaction regarding symptomatic relief.

On the basis of this study we prefer and recommend stapled hemorrhoidectomy for the treatment of 3<sup>rd</sup> & 4<sup>th</sup> degree hemorrhoids as its benefits outweigh those of open hemorrhoidectomy.

## REFERENCES

1. White I, Avital S, Greenberg R. Outcome of Repeated Stapler Hemorrhoidectomy for Recurrent Prolapsing Hemorrhoids. *Colorectal Disease*. 2011; 13(9): 1048–1051
2. Marx JA, Hockberger RS, Walls RM. *Rosen's Emergency Medicine. Concepts & Clinical Practice*. 2006; Edi. 6: 1509-1512
3. Jan WA, Ghani AA, Khan K, Khan MI. An experience of operating 115 cases of prolapsing hemorrhoids. *J Post Grad Med Inst*. 2003; 17: 220-5.
4. American Gastroenterological Association Medical Position Statement: Diagnosis and Treatment of Hemorrhoids. *Gastroenterology*. May 2004; 126(5): 1461–1462
5. Gordon SH, Nivatongs S, Gordon SH, Nivatongs S. *Principles And Practice Of Surgery For Colon, Rectum, And Anus*. Third. Informa Health Care, USA. 2007; 145-152

6. Gouda MElabban, Suez. Stapled Hemorrhoidectomy versus Traditional Hemorrhoidectomy for the Treatment of Hemorrhoids. *World Journal of Colorectal Surgery*. 2010; 2(1): Article 2
7. Boccasanta P, Capretti PG, Venturi M, Cioffi U, De Simone M, Salamina G, et al. Randomised controlled trial between stapled circumferential mucosectomy and conventional circular Hemorrhoidectomy in advanced hemorrhoids with external mucosal prolapse. *The American Journal of Surgery*. July 2001; 182(1): 64–68
8. Hetzer FH, Demartines N, Handschin AE, Clavien PA. Stapled Vs Excision Hemorrhoidectomy: Long-Term Results Of A Prospective Randomized Trial. *Arch Surg*. March 2002;137(3):337-340
9. Beattie GC, Mcadam TK, McIntosh SA, Loudon MA. Colorectal Disease. *The Official Journal of The Association Of Coloproctology Of Great Britain And Ireland*. 2006; 8(1): 56-60.
10. Jongen J1, Bock JU, Peleikis HG, Eberstein A, Pfister K. Complications and reoperations in stapled anopexy: learning by doing. *Int J Colorectal Dis*. 2006;21(2):166-171
11. Ganio E, Altomare DF, Gabrielli F, Milito G, Canuti S. Prospective randomized multicente trial comparing stapled with open haemorrhoidectomy. *Br J Surg*. 2001;88:669–674
12. Rehman K, Javed M A, Mehmood K, Khawer A. A randomized trial to compare pile suturing with hemorrhoidectomy for treatment of third and fourth degree haemorrhoids. *PAF Med J*. June 2010; Issue 2
13. Villalba H, Abbas AM. Hemorrhoids- Modern Remedies for an Ancient Disease. *Perm J*. 2007; 11(2): 74–76
14. Sanchez C, Chinn BT. Hemorrhoids. *Clin Colon Rectal Surg*. March 2011; 24(1) : 5-13
15. Halverson A. Hemorrhoids. *Clin Colon Rectal Surg*. May 2007; 20(2):77-85
16. Johannsson HO, Graf W, Pahlman L. Bowel habits in hemorrhoid patients and normal subjects. *Am J Gastroenterol*. 2005;100:401–406
17. Atomizing Hemorrhoids. [Last accessed on 2010 July 10]. Available From: [www.proctology.us/atomizing.php](http://www.proctology.us/atomizing.php)
18. Chen JS, You JF. Current Status of Surgical Treatment for Hemorrhoids - Systematic Review and Meta-analysis. *Chang Gung Med J*. Sep-Oct 2010; 33(5): 488-500.
19. Riaz AA , Singh A , Patel A, Ali A, Livingstone JI. Stapled haemorrhoidectomy- A day case procedure for symptomatic haemorrhoids. *BJMP*. 2008;1(2): 23-27
20. Jongen J1, Bock JU, Peleikis HG, Eberstein A, Pfister K. Complications and reoperations in stapled anopexy. *Int J Colorectal Dis*. 2006;21(2):166-71.