

# Outcome of Stapled Haemorrhoidectomy in 3<sup>rd</sup> and 4<sup>th</sup> Degree Haemorrhoids

MUHAMMAD BILAL, MUHAMMAD AZEEM, MUHAMMAD ARSHAD CHEEMA

## ABSTRACT

Stapled haemorrhoidectomy is the newest surgical technique for treating haemorrhoids. Haemorrhoids are the cushions of the tissue and varicose veins located in and around the anal area. There are three main cushions of thickened tissue in the anal canal in the left lateral, right anterior and right posterior position. Haemorrhoids are described as symptoms originating from these rectal cushions. These cushions cause symptoms including discomfort, itching, mucus discharge, bleeding and even prolapse which itself is a cause of considerable distress. Total 32 patients having 3<sup>rd</sup> and 4<sup>th</sup> degree haemorrhoids were included in study. All patients were operated by stapling technique. A prospective study was undertaken of 32 patients between September 2007 and February 2008. The outcome studied were patients' profiles, duration of hospital stay, return to routine work, post-operative complications and recurrence.

**Results:** A total of 32 patients (43.8 % women) had surgery. The median age was 40.6 (range 30-50) years. The main indications were bleeding 84.3 %, haemorrhoidal prolapse with 4<sup>th</sup> degree were 59.6 %. The median duration of operation was 21 (18-47) minutes. The mean duration of hospital stay was 1.02 days. The mean duration of return to routine work or job was 8.5 days. Minor complications occurred in three patients: Bleeding in one (3.1%), significant postoperative pain in an another patient (3.1%) and urinary retention in one patient (3.1 %). No case of recurrence was noted after a median follow up of 8.5 months.

**Conclusion:** Stapled haemorrhoidectomy is a safe and effective procedure for prolapsed haemorrhoids.

**Keywords:** Stapled Haemorrhoidectomy (SH), Haemorrhoids, Post-Operative Complications, Procedure for Prolapsed Haemorrhoids (PPH).

---

## INTRODUCTION

Haemorrhoids or piles represent a fragmentation of Park's ligament; this results in submucosal tissue that lines the anal canal, along with the anal mucosa, sliding downward. This prolapse obstructs venous outflow hence causing the clinical entity known as Haemorrhoids (Thomson WHF)<sup>1</sup>.

Everyone has haemorrhoids, the pillow like clusters of veins that lie just beneath the mucous membrane lining the lowest part of rectum and the anus. They become large and cause problems in only 4 % of the general population. Hemorrhoids that cause problems are found equally in men and women, and their prevalence peaks between 45 and 65 years of age<sup>2</sup>.

The anatomical term "hemorrhoids" technically refers to rectal cushions "Cushions of tissues filled with blood vessels at the junction of rectum and anus". The term VASCULAR CUSHION was introduced by THOMSON in 1975. Haemorrhoids should be taken to describe symptoms originate from the rectal cushions<sup>3</sup>. They are classified depending upon severity into four degrees. Third degree

haemorrhoids require digital replacement and fourth degree haemorrhoids consist of fixed prolapse of tissue that can not be digitally replaced. The haemorrhoids cause symptoms including discomforts, itching, mucous discharge and bleeding as well as prolapse itself which may cause the patient some distress.

Stapled haemorrhoidectomy (SH) or Procedure for Prolapse Haemorrhoids (PPH) was presented as a novel technique for the treatment of prolapsed haemorrhoids by Antonio Longo in 1998<sup>4</sup>. This procedure uses an intra-luminal circular stapling gun to excise a circumferential ring and re-anastomosis of the mucosa from the upper anal canal.

## PATIENTS AND METHODS

Between September 2007 to February 2008, 47 patients with 3<sup>rd</sup> and 4<sup>th</sup> degree Haemorrhoids (18 and 29 respectively) were seen. Some 32 patients were eventually enrolled in the study.

Patients with previous haemorrhoidal surgery (4 patients), patients with contraindication for general anaesthesia (3 patients), and 8 patients did not accept the treatment were excluded from the study.

Bleeding per rectum was the most common

---

*Department of surgery king Edward medical university Lahore.  
Correspondence to Dr. Muhammad Bilal Qureshi,  
Email: drbilalqureshi@gmail.com*

presentation (84.3 percent), other symptoms include pain 13 patients (40.6 percent), discharge (34.4 percent), distress and pruritis (53.1%) and (43.7%) respectively as shown in table (III).

All patients underwent preoperative per rectal, Proctoscopy and Sigmoidoscopy examination. Stapled Haemorrhoidectomy Gun was provided to all patients on free of cost from hospital resources. All patients were operated under spinal anaesthesia. The operative field was shaved and cleaned with antiseptic povidone-iodine solution.

Stapled Haemorrhoidectomy (SH) was presented as a novel technique and one of the most studied of all recent new surgical technologies (Andrew Hill et al)<sup>5</sup> for the treatment of prolapsing haemorrhoids.

This procedure uses a intra-luminal circular stapling gun to excise a circumferential ring of mucosa from the upper anal canal. The technique involves placing a purse string about 3.5 cm above the dentate line and stapling gun introduce into the anus. The suture is tightened onto the shaft of stapler, the gun then tightened down and fired, releasing a double row of titanium staples through the tissue. The circular knife within the head of the gun excises this redundant tissue as a doughnut of rectal mucosa. The post-operative complications (infections, sepsis and perianal oedema), pain, bleeding, and recurrence were recorded.

Post Operative pain was assessed according to Visual Analogue Scale (VAS) from 0 (no pain) to 10 (worst pain) on the first operative day. Most patients were discharged when parental analgesia was no more required. The patients were seen on weekly basis for 1<sup>st</sup> month and then on monthly basis for next five months after the surgery.

**RESULTS**

Among 32 patients 18 male and 14 female as shown in figure in (2) with a mean age of 40.6 (30-50) years as shown in figure (1). Median follow up was 8.5 (6-11) months. The mean duration of hospital stay was 1.02 days. The median operation time was 21 (18-47) minutes. The mean duration of return to routine work or job was 8.5 days. The main indications were bleeding (84.3%), haemorrhoid prolapse in 19 (59.3%) as shown in table (III).

Minor complications occurred in 9.3 percent of patients: Acute retention of urine in one patient, bleeding in one patient (3.1%), and significant post-operative pain Visual Analogue Score (VAS) of 7.5 requiring prolong hospital stay of 3 days.

Post-operative pain were significantly lower having visual analogue (VAS) Score of less than 2 (0.2-7.5) and need only Tab. paracetamol to control

the pain on first 24 hours in 31 (96.8%), one patient (3.1%) need narcotic analgesic to control the pain with VAS Score of 7.5 in first two days postoperatively as shown in table (1). The lower pain VAS Score in 96.8 % patients presumably due to local infiltration of anal region with 0.25% Bupivcain with adrenaline. Similar results have been noted in the studies of Longo A et al<sup>6</sup>, Ho YH et al<sup>7</sup> and Molloy JR et al. But St Mark's Group showed high pain VAS Score to the level that they abandoned the trial as 46% of the patients experience urgency and rectal pain need narcotic analgesic for 7 to 10 postoperative days. However, reason of this high morbidity due to pain evaluated by senior colorectal surgeon could find no apparent reason for the symptoms.

Table I: Post operative pain by visual analogue score VAS n=32

Days	N=1	n=31
1 <sup>st</sup> Day	7.5 (5-8)	2.1 (0.2-3)
2 <sup>nd</sup> Day	5 (3-7)	1.2 (0.1-2)
7 <sup>th</sup> Day	1.5 (1-2.5)	0 (0)

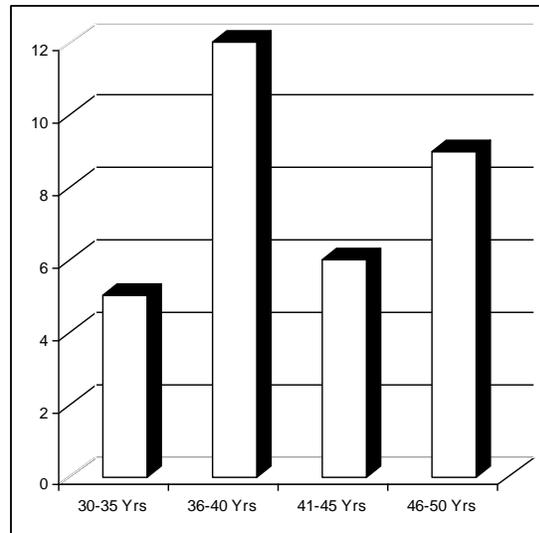


Figure 1: Age Distribution

One patient (3.1%) developed urinary retention on the day of surgery and was catheterized for 24 hours. Bleeding from stapler anastomotic site noticed at the end of procedure in one patient (3.1%) and bleeding site was under run with 2/0 Vicryl. Minor post-operative complications shown in Table II.

Post-operative follow-up at one month showed significant resolve the problems of patients regarding bleeding, perianal discomfort, pain and itching.

Table-II Post operative complications

Pain	3.1%
Urine retention	3.1%
Bleeding at anastomotic site	3.1%

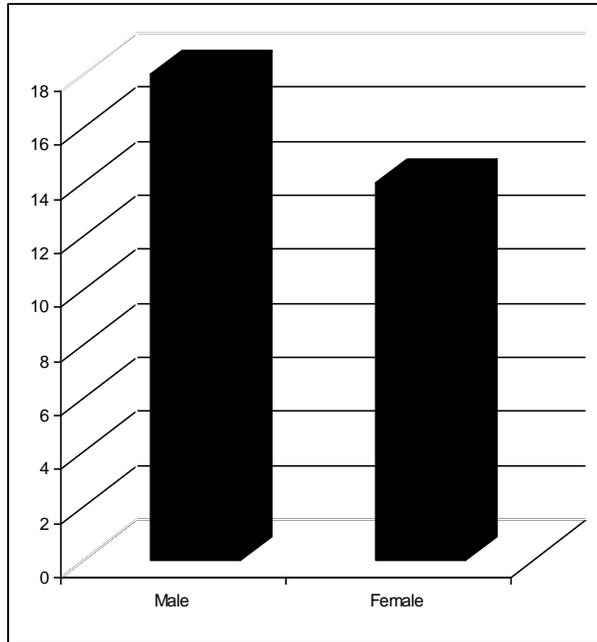


Figure 2: Gender Distribution

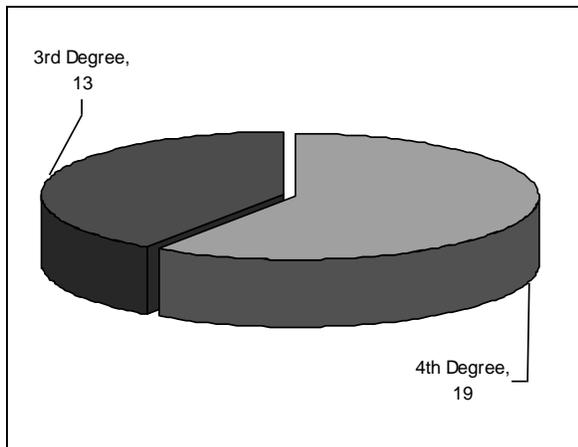


Figure 3: Degree of Haemorrhoids

Table III: Preoperative Presentation in patients n =32

Symptoms	=n	%age
Bleeding per-rectum	27	84.3
Prolapsed haemorrhoids	32	
3 <sup>rd</sup> degree	13	40.6
4 <sup>th</sup> degree	19	59.4
Perianal discharge	11	34.4
Patients feeling discomfort	17	53.1
Pain	13	40.6

## DISCUSSION

Many studies have looked at the efficacy and safety of PPH (Procedure for Prolapsed Haemorrhoids) procedure, ( Longo A et al<sup>8</sup>, MacRae HM et al, Pavlidis T et al, Wong L Y - et al, Sajid Sh et al<sup>9</sup>,

Lloyd D et al<sup>10</sup>). Over all, however the procedure seems safe and well tolerated, and appears to be effective, at least in short term (Andrew Hill et al).

There were 18 male and 14 female patients in our study which is comparable with study of Law WL et al<sup>11</sup>.

The mean age of the patients in our study was 40.6 years which is comparable with the study of Sobrado CW et al<sup>12</sup>, Law WL et al.

The mean hospital stay was 1.02 days which is also comparable with different studies (Roswell M et al<sup>13</sup>, Shao WJ et al, Nahas SC et al<sup>14</sup>, Wong JC et al).

The analysis of postoperative complications in our study showed pain in one patient (3.1% ). Visual analogue score (VAS) of 2.1 (0.2-8) which is comparable with Thomson WHF et al, Roswell M et al<sup>16</sup> and Ho YH et al, Shao WJ et al, Mehigan BJ et al.

However, one patient (3.1%) had severe anal pain needed narcotic analgesic for three days and remain admitted in hospital. On evaluation by senior consultant we are unable to find the cause of this severe pain but Cheetham MJ et al reported in his study that the cause of sever perianal pain after stapled haemorrhoidectomy is muscle incorporation in the doughnut.

One patient (3.1%) had bleeding from stapler anastomotic site post-operatively and managed by under-running Vicryl 2/0 suture. Bleeding is an occasional happening with 0.7 to 5 % reported in different trials (Johannsson HO et al<sup>15</sup>, Palimento D et al<sup>16</sup>, Cheetham MJ et al<sup>17</sup> and Sutherland LM et al<sup>18</sup> . When purse string suture are not properly made and doughnut is not complete on examination, one should look more carefully for bleeding points. In our case the bleeding was found at 3<sup>o</sup>, clock position.

Molloy RG et al, McCloud JM et al reported life threatening pelvic sepsis after stapled haemorrhoidectomy but there is no case of this complication in our study.

This study was of six months follow up and is safe for short term benefits. Many studies (Ortiz H et al, Burch J et al, Shao WJ et al, Sutherland LM et al,) reported that stapled haemorrhoidectomy had short term benefits but in long term follow up, recurrence of the prolapse is noted.

Majority of the patients (96.8%) were discharged within 24 hours. However, one patient who had severe anal pain after PPH remain admitted in hospital for three days. So stapler haemorrhoidectomy for prolapse haemorrhoids may be used as a day case surgery for selected patients as shown in the study of Beattie GC et al<sup>19</sup> with 87.3% successful rate. Miles AJ et al<sup>20</sup> had reported that Stapled Haemorrhoidectomy can be performed as a day case procedure.

Probably PPH is not the answer for all haemorrhoids, (Andrew Hill et al), especially those that are externally large or are associated with a very significant external component and thrombosis.

The different studies (Mehigan BJ et al<sup>21</sup>, Ganio E et al<sup>22</sup>, Rouse P et al<sup>23</sup> and Roswell M et al, Lomanto D et al ) reported that patients undergoing a stapler haemorrhoidectomy experience a short anesthesia time median 18 minutes which is not comparable with present study where median anesthesia time was about 21 minutes. This difference might be due to better equipped post-up recovery facilities in other hospitals.

Return to work or job is another parameter by which outcome can be assessed, though it depends upon the patient psyche, if self employed or not, paid or unpaid, medical leave and home conditions to support. Obviously, the patients with earlier healing will resume their job earlier. The median duration of return to routine work or job was 8.5 days which is comparable with Roswell M et al, Shao WJ et al, Tjandra JJ et al, Wong JC et al, Burch J et al, Mehigan BJ et al.

## CONCLUSION

Despite that this study is of small size and limited follow-up, it showed the same essential finding as shown by different trials in the world about outcome of PPH. These are that the Stapled Haemorrhoidectomy is easy and quick to perform. In addition it is clearly less painful than the traditional excision haemorrhoidectomy although it is not pain free. Early return to normal life and no recurrence rate is noted in these patients.

Clearly long-term results as well as scientifically valid economic analysis should be awaited before the wide spread introduction of this technique particularly in patients with poor socioeconomic conditions.

Stapled haemorrhoidectomy is safe procedure for prolapsed haemorrhoids. Patient acceptance and satisfaction are high. However, it is more costly and this factor is important in our circumstances.

## REFERENCES

1. Thomson WHF. The nature of hemorrhoids. *Br J Surg.* 1975; 62: 542-52.
2. Williams NS. The anus and anal canal. In: Russell RCG, Williams NS, Rulstrode CJK editors. *Bailey & love short practice of surgery.* 24<sup>th</sup> ed. London: Arnold; 2004; 1255- 62.
3. Cuschieri SA. Disorders of the anal canal. In: Cuschieri SA, Steele RJC, Moosa AR editors. *Essential surgical practice.* 4<sup>th</sup> ed. London: Arnold; 2002; 634-7.
4. Longo A. Treatment of haemorrhoidal disease by reduction of mucosa and haemorrhoidal prolapse with a circular stapling device: a new procedure . 6<sup>th</sup> World

- Congress of Endoscopic Surgery. Naples: Mundozzi 1998; 777-84.
5. Andrew Hill. *New Zealand Med J* 2004; 117: 1203
6. Longo A. World congress of Endoscopic Surgery, Rome, Italy 3<sup>rd</sup>-6<sup>th</sup> June, 1998.
7. Ho YH, Chong WK, Tsang C, Ho EUKW, Tsang CL, Seow-Cheon F. Stapled haemorrhoidal cost and Effectiveness Randomized control Trial including Incontinence Scoring, Anorectal Manometry and Endo Anal Ultrasound Assessments up to 3 months. *Diseases of the Colon and Rectum* 2000; 34: 1666-75.
8. Longo A. Stapled Haemorrhoidectomy and stapled anopexy: Two opposite concepts and procedures. *Dis Colon Rectum* 2002; 45: 571-2.
9. Sheikh S, Hameed F, Naseem MK, Afzal M. Stapler haemorrhoidectomy. A novel and safe technique. *Professional Med J* 2006; 13: 113-8.
10. Lloyd D, Ho KS, Seow-Choen F. Modified Longo's haemorrhoidectomy. *Dis Col Rect* 2002; 45: 416-7.
11. Rosewell M, Bello M, Hemingway DM. Circumferential Mucosectomy versus Conventional haemorrhoidectomy: A randomized control trial. *Lancet* 2000; 355(9206): 779-81
12. Law WL, Tung HM, Chu KW, Lee FC. Ambulatory stapled haemorrhoidectomy: a safe and feasible surgical technique. *Hong Kong Med J* 2003; 9(2):103.
13. Sobrado CW, Cotti GC, Coelho FF, Rocha JR. Initial experience with stapled haemorrhoidectomy for the treatment of haemorrhoids. *Arq Gastroenterol* 2006; 43(3): 238-42.
14. Nahas SC, Borba MR, Brochado MC, Marques CF, Nahas CS, Miotto-Neto B. Stapled haemorrhoidopexy for the treatment of haemorrhoids. *Arq Gastroenterol* 2003; 40(1): 35-9
15. Johannsson HO, Graf W, Pahlman L. Long term results of the haemorrhoidectomy. *Eur J Surg* 2002; 168: 485-9.
16. Palimento D, Picchio M, Attanasio U. Day case stapled VS diathermy haemorrhoidectomy: A randomized controlled trial of early results. *World J Surg* 2003; 27: 203-7.
17. Cheetham MJ, Mortensen NJ, Nystrom PO, Kamm MA. Persistent Pain and Faecal Urgency after Stapled Haemorrhoidectomy. *Lancet* 2000; 356: 730-33.
18. Sutherland LM, Burchard AK, Matsuda K. A systemic review of stapled haemorrhoidectomy. *Arch Surg* 2002; 137: 1395- 1406.
19. Beattie GC, McAdam TK, McIntosh SA, Loudon MA. Day case stapled haemorrhoidopexy for prolapsing haemorrhoids. *Colorectal Dis* 2006; 8(1): 56-61.
20. Miles AJ, Dunkley AJ. Day case Stapled Haemorrhoidectomy. *Colorectal Dis* 2007; 9(6): 532-5.
21. Mehigan BJ, Monson JRT, Hartley JE. Stapling Procedure for Haemorrhoids Versus Milligan Morgan Haemorrhoidectomy: A Randomized Control trial. *Lancet* 2000; 355(9206): 782-5.
22. Ganio E, Altomare DF, Gabrielli F, Milito G, Canuti S. Prospective randomized multicenter trial comparing stapled with open haemorrhoidectomy. *Br J Surg* 2001; 88: 669-74.
23. Rouse P. Haemorrhoid Surgery reversed (letter). *Lancet* 2000; 355(9215): 1648.

