



## Original Article

# STAPLED HAEMORRHOIDOPEXY - THE BETTER OPTION FOR SURGICAL TREATMENT OF IDIOPATHIC HAEMORRHOIDS-OUR EXPERIENCE IN BSMMU

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### Abstract

**Objective:** Idiopathic haemorrhoidal disease is a common problem in colorectal practice. Conventional open haemorrhoidectomy is associated with significant pain and an open wound for a long time to heal interfering normal day to day activities. Stapled haemorrhoidopexy is expected to have less pain and without a wound. This study reflects our experience with stapled haemorrhoidopexy in our population.

**Methods:** Two hundred consecutive patients with primary haemorrhoidal disease of different degrees underwent stapled haemorrhoidopexy in BSMMU since January 2009 to April 2011. All the patients were evaluated by history, clinical examination and Proctosigmoidoscopy. With adequate preoperative preparation they underwent stapled haemorrhoidopexy under spinal anaesthesia. They were followed up post-operatively for a median 2 months duration.

**Results:** Male to female ratio was 3.76:1 with median age of 35 years (range: 11-90 years). Median hospital stay was 2 days (24 hours-5 days) and longest 5 days after operation. 14 patients had 1<sup>st</sup> degree haemorrhoids, 66 patients had 2<sup>nd</sup> degree haemorrhoids, 104 patients had 3<sup>rd</sup> degree haemorrhoids and 16 patients had 4<sup>th</sup> degree haemorrhoids. Median time for the procedure was 25 minutes. Urgency of defecation was complained by 46 patients who ultimately felt comfortable within 2-4 weeks. 6 patients complained of anorectal pain who responded to conventional analgesics. Rest of the patients available after 8 weeks follow up were found to be fully satisfied.

**Conclusion:** Contrary to open haemorrhoidectomy this procedure is associated with least chance of anal incontinence because of preservation of normal anal cushion. It can safely be concluded that stapled haemorrhoidopexy is a better option in treating primary haemorrhoidal disease.

**Key Words:** Stapled haemorrhoidopexy-idiopathic haemorrhoidal disease.

### Introduction:

Haemorrhoids have been described since the beginning of medical history. The first topical treatment is described in an Egyptian papyrus during 1700 BC and the first surgical excision is described by

Hippocrates in the Hippocratic treatises in 460 BC<sup>1</sup>. It is said that French emperor Napoleon had haemorrhoids. At the Waterloo battle this caused him pain and he had to remain in bed for most of the time. Historians believe that this "crise haemorrhoidale" impaired his battlefield conduct and made him lose the battle.<sup>2</sup> The incidence of haemorrhoids at present population is estimated to be at 8%, while the prevalence at 10%. The male-female ratio is 1:4.<sup>3</sup> This affects people of any age and gender and most commonly occurs between the ages of 45 and 65

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years. It is estimated that at least 50% of individuals over 50 years of age have at some time experienced symptoms related to Haemorrhoids.<sup>4</sup> It is reported that continence disturbance co-exists in 40 percent of patients with haemorrhoids and disrupting the anal cushion during haemorrhoid treatment may further worsen it.<sup>5</sup> Haemorrhoidectomy is indicated when medical treatment or non-excisional interventions fail.<sup>6</sup> Among many, the technique by Milligan-Morgan is most commonly used. But pain and prolonged postoperative recovery following excisional haemorrhoidectomy have motivated surgeons to search for alternative methods of treating patients with symptomatic haemorrhoidal disease. In an attempt to minimize postoperative pain, in 1993, Antonio Longo from University of Palermo, Italy, devised a surgical technique for haemorrhoids by reducing the anal mucosal prolapse by circumferential excision of strip of mucosa and submucosa of anal canal above the dentate line with the aid of a circular stapling device. This is also known as stapled haemorrhoidopexy, circumferential mucosectomy, Longo operation and stapled anopexy. Recently it has been demonstrated that surgical treatment of haemorrhoids in a day care basis is possible and safe.<sup>8</sup> After stapled haemorrhoidopexy there is least pain, rapid recovery, fewer complications with high degree of satisfaction.<sup>9</sup> Longo's technique of stapled haemorrhoidopexy has revolutionized the management of symptomatic haemorrhoids. It is a normal expectation of every patient that the procedure should be performed with least discomfort and without any chance of recurrence. But open haemorrhoidectomy is often associated with severe pain, postoperative bleeding, pruritus, open wound and a long time of absence from work. Stapled haemorrhoidopexy is being designed to treat haemorrhoidal disease without the disadvantages of open haemorrhoidectomy. We have evaluated the safety, efficacy, patient satisfaction and the short term outcome of this procedure in our population.

#### **Materials and methods:**

This is a prospective observational study, conducted over a period between January 2009 to April 2011 carried out in Bangabandhu Sheikh Mujib Medical University. Two hundred consecutive patients with idiopathic/primary haemorrhoidal disease irrespective of age, sex, height, nutritional conditions, and socioeconomic status were selected for the procedure. Patients with secondary haemorrhoids or with other

associated benign anorectal disorders were excluded from the study.

Diagnosis of haemorrhoidal disease was made from history, and examination of anorectum by conventional digital rectal examination and proctosigmoidoscopic examination. Relevant investigations were done for anaesthetic fitness.

#### **Technique**

The PPH03 haemorrhoidal circular stapler procedural set consists of a 33mm circular stapler, suture threader and purse-string anoscope. The circular anal dilator with its obturator also comes with the set. All operations were carried out under spinal anaesthesia, with the patient in lithotomy position. After gentle dilation of the anus the purse-string anoscope was introduced into the anal canal. A circumferential purse-string suture was placed approximately 2-3cm above the dentate line with 3/0 vicryl, taking care that only the mucosa and submucous layers are incorporated in the purse-string suture. The PPH03 haemorrhoidal circular stapler is opened fully and the 33mm anvil is introduced into the anal canal. It is positioned above (proximal to) the purse-string, which is then tied down. The suture threader is then used to pull the suture through the lateral holes of the PPH03 stapler. The stapler is tightened slowly while applying traction on the purse-string. In women, posterior vaginal wall was ensured not to be incorporated in the purse string suture before tightening and firing the instrument. The instrument is left closed in this position for approximately 30 seconds before firing the stapler. After firing the stapler, the PPH03 stapler is opened and the stapler removed gently. The staple line is then examined for bleeding using the anoscope.

They were followed up postoperatively regarding urinary retention, bleeding, anal pain and any other complications. Clinical evaluations including complete proctological examination were routinely repeated at postoperative follow up on 5 to 7 days, 3 weeks and 2 months after surgery. After collection of required information, data were checked and processed manually, analyzed and edited by computer and simple statistical calculations were done by using percentage.

#### **Results:**

Total 200 patients (m, 158; F, 42) with median age of 35 years (11-90 years) with a diagnosis of primary haemorrhoidal disease underwent stapled

haemorrhoidopexy between January 2009–April 2011. Around 90% of patient presented with pain less per rectal bleeding. Bulk of the patients were with 2<sup>nd</sup> & 3<sup>rd</sup> degree haemorrhoids. Mean operative time was 25 minuets (15-40 minuets). Complete restoration of anatomy was achieved in 87.5% cases. Only 12.5% patients had Residual lump. 58% patients recovered uneventfully. Urgency of defecation was the most frequent (23%) early post operative complications. Mean hospital stay was two days (1-5) days. More than 90% of the patients were completely asymptomatic. At two months follow up 97% of patients were found satisfied with the procedure.

**Table-I**  
*Patients' Demography (n=200)*

Variables	Number of patients (%)
Sex	M 158, F 42
Age (years) <sup>a</sup>	35 (11-90)
Clinical features-	
• Per rectal bleeding	177 (88.5%)
• Symptomatic prolapse	168 (84%)
• Pruritus	96 (48%)
• Pain	76 (38%)
• Anaemia requiring blood transfusion	08 (04%)
Degree of Haemorrhoids-	
• 1 <sup>st</sup> degree	14 (07%)
• 2 <sup>nd</sup> degree	66 (33%)
• 3 <sup>rd</sup> degree	104 (52%)
• 4 <sup>th</sup> degree	16 (08%)
Timing of per-rectal bleeding-	
• During daefecation	188 (94%)
• During micturition	12 (06%)

<sup>a</sup> median (range) expressed

**Table-II**  
*Peri-operative Data (n=200)*

Variables	Number of Patients (%)
Operantive time (minuets) <sup>a</sup>	25 (15-40)
Complete restoration of anatomy	175 (87.5%)
Residual lump	25 (12.5%)

<sup>a</sup> median (range) expressed

**Table-III**  
*Post-Operative Events (n=200)*

Variables	Number of patients	
Uneventful Recovery	32 (58%)	
Compications-		
• Urgency of daefecation	46 (23%)	
• Urinary retension	08 (04%)	
• Anal pain	06 (03%)	
• Reactionary Hamorrhage	04 (02%)	
Hospital stay (days) <sup>a</sup>	2 (1-5)	
Return to work (days) <sup>a</sup>	6 (3-15)	
Results	1 <sup>st</sup> Follow up	2 <sup>nd</sup> Follow up
Complete relief of symptoms	174 (87%)	181 (90.5%)
Anal bleeding	06 (03%)	0 (0%)
Residual skin tag	19 (9.5%)	19 (9.5%)
Patient satisfaction	194 (97%)	

<sup>a</sup> median (range) expressed

### Discussion:

Haemorrhoid is a common anorectal disorder encountered in day to day surgical practice. Since ancient era doctors are trying various methods to treat the disease effectively. Different surgical and non-surgical methods are in use at present. Open haemorrhoidectomy can be performed by various methods, but the best one remains unanswered. Stapled haemorrhoidopexy is new and a very good technique to treat haemorrhoids with fewer complications and better patient satisfaction.

Stapled haemorrhoidectomy is a faster procedure<sup>11</sup>. In the present study, median time for performing operation was 25 minutes (range 15-40 mins). As median operative time was 23 minutes (16 to 48 minutes) in the study by Sobrado et al<sup>11</sup>, 24 minutes (15-40 minutes) in the study by Riaz AA et al<sup>12</sup>, 30 minutes (15-45 minutes) in the study by Hetzer FH et al<sup>13</sup>, so our result is consistent with other similar studies. The procedure was found to be much faster than open method as median time was 43 minutes (25-60 minutes) in open method by Hetzer et al<sup>13</sup>.

In this study, preservation of normal anatomy with intact anal cushions after stapled haemorrhoidectomy is 87.5%. In comparison with other studies, 94% by Sobrado et al<sup>43</sup>, 98.5% by Riaz AA et al<sup>12</sup>, 95% by

Hetzer FH et al<sup>13</sup>, the result in our study is acceptable. The rest of the patients in the study had residual skin tag which was tiny and caused no discomfort.

Immediate complications were urgency of defecation (23%), urinary retention (4%), reactionary haemorrhage (2%), anal pain (3%) immediately after operation. Sobrado et al found 3.9% had urinary retention requiring catheterization and 23.8% had pain, 7.2% had reactionary haemorrhage<sup>11</sup>, Riaz AA et al found 15.2% had urgency of defecation, 14% had reactionary haemorrhage, 3% had anal pain<sup>12</sup> and Hetzer FH et al found 10% had reactionary haemorrhage after staple haemorrhoidectomy and in open method 20% had wound complications, 5% had urinary retention and stapler group had significantly less pain than open group<sup>13</sup>. So our findings were somewhat consistent with other Western studies. However we had fewer patients complicated with reactionary haemorrhage. In our study, follow-up after 2 months showed 90.5% patients had complete relief of symptoms and 9.5% patients had small residual skin tag. Although rarely a source of significant symptom, skin tag can be aesthetically undesirable and a cause of anxiety for some patients. But it involves a process of gradual involution. Reassurance is generally all that is required, with surgical excision, reserved for particularly large skin tags causing distress.

In our study, median duration of hospital stay was 2 days. In study by Riaz AA et al 88% stayed for 1 day, 2% stayed for 2 days and 10% discharged on same day<sup>12</sup>. Hospital stay in our study, was lengthier which may be attributed to patients apprehensiveness and poor communication and our socio economic condition.

In this study, 80% patients returned to work within 6-10 days after staple haemorrhoidectomy. Median duration of resumption to work is 6 days (range 3-15 days). In the study by Sobrado et al resumption of normal activities and return to work were after 3 to 14 days, with a median period of 6 days<sup>11</sup>, in the study by Riaz AA et al return to work was within a week<sup>12</sup> and Hetzer FH et al found it to be after 2 to 14 days, with median period of 7 days in stapled group. So our findings were consistent with other studies on stapled haemorrhoidopexy. In the study by Hetzer FH et al in open group the median duration of hospital stay was 20 days with a range from 7 to 45 days<sup>13</sup>. So it

shows that stapled method reduces the hospital stay significantly as it has less pain and no open wound relieving the surgeon and patient from dressing and wound care.

In this study we do not have any long term follow up. But evaluation immediately after and 2 months after operation revealed some complications but none requiring hospitalization. On first post-operative follow up 87% patients confirmed complete relief of symptoms, 6 patients had anal bleeding (1 patient treated by banding, 3 patients by injection sclerotherapy and 2 patient responded by conservative treatment). On the 2<sup>nd</sup> visit 90.5% patients confirmed satisfaction while 9.5% had minor residual skin tags that did not need any intervention.

97% patients expressed their complete satisfaction. But only 3% expressed concern about the high expenditure of the operation, which is a barrier to the procedure especially in a third world country like ours. But if open haemorrhoidectomy is performed it takes away many working hours and also increases the hospital stay and thereby the expenses. Hence in the end, the comparative expenditure of the Longo's technique is not high.

#### Conclusion:

Stapled haemorrhoidopexy is a quick, safe and effective method of treating all degrees of idiopathic haemorrhoidal disease. Short term evaluation in our study revealed that the procedure is associated with fewer complications, shorter hospital stay and better satisfaction among the patients and we consider this technique as the best option for treating haemorrhoidal diseases.

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