

Stapled Haemorrhoidectomy in the operative treatment of grade III and IV haemorrhoids

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ABSTRACT

Stapled haemorrhoidectomy (SH) is a minimally invasive intervention that uses a stapling device which avoids the need for wounds in the sensitive anal area and reduces the pain after surgery. This study was undertaken in Nepal Medical College Teaching Hospital from January 2010 to December 2012 to evaluate the efficacy of this modality of treatment among patients (32) who presented in the Surgery OPD with grade III and grade IV haemorrhoids. The results of SH were evaluated by the relief of symptoms, severity of post operative pain, and complications of SH. Twenty five (78.1%) patients had grade III and 7 (21.9%) presented with grade IV hemorrhoids. The most frequent presentation reported in our study was bleeding per rectum with perianal prolapse. Mean operating time was 40-60 minutes whereas mean hospital stay was 1.9 days. Urinary retention was the most common complication found in 12 (37.5%) patients in the immediate post operative period. SH is a safe, rapid, and convenient surgical remedy for grade III and grade IV hemorrhoids with low rate of complications, minimal postoperative pain, and shorter hospital stay.

Keywords: Stapled haemorrhoidectomy, haemorrhoids, prolapse

INTRODUCTION

Prolapse of anal cushion with or without bleeding per rectum is known as hemorrhoids. Around 5% of general population suffer from symptoms of hemorrhoids and one third seeks medical treatment.¹ Stapled haemorrhoidectomy (SH) is a minimally invasive intervention that uses a stapling device which avoids the need for wounds in the sensitive anal area and reduces the pain after surgery.

This technique was introduced in 1997 by Sir Antonio Longo.² Conventional haemorrhoidectomy provides symptomatic relief for most patients. However, the wounds created by this method of surgery are usually associated with considerable post operative pain which necessitates prolonged recovery period. SH a new approach to the treatment of grade III and IV hemorrhoids, removes a circumferential strip of mucosa and sub mucosa about 4 cm above the dentate line with a circular stapler, interrupting the haemorrhoidal vessels and stretching the prolapsed anal cushion.³ Thus it is reported to be an effective treatment with low morbidity, high patient satisfaction and good long-term control of hemorrhoidal symptoms.⁴ It is not routinely performed in our hospital. Hence this study was undertaken to evaluate the efficacy of this modality in our set-up.

MATERIALS AND METHODS

This study was performed in Nepal Medical College Teaching Hospital from January 2010 to December 2012. Patients who presented in the Surgery OPD with clinical history of per rectal bleeding, perianal prolapse, constipation associated with or without discharge and pain underwent proctoscopic evaluation. Those with grade III and grade IV hemorrhoids were treated by stapled haemorrhoidectomy using Ethicon Endosurgery PPH 30mm circular stapling device. The procedure was performed by a single surgeon (the first author) with assistance by other co authors.

An informed consent was taken from all the patients. Ezivac enema was administered at 6 am on the day of surgery. Preoperative antibiotics Ciprofloxacin 200 mg and Metronidazole 500 mg were administered intravenously at the time of induction of spinal anaesthesia. The procedure was performed in lithotomy position. After dilatation of anal canal, a purse string suture was placed over the mucosa and sub mucosa about 3-4 cm above the dentate line with 2(0) polypropylene. Subsequently a circular stapler was introduced transanally. The anvil of the device was positioned proximal to the purse string and the suture was tied down on to the anvil. Retraction of the suture pulled the attached rectal mucosa into the stapler. Closure of the anvil and firing of the stapler simultaneously excised a doughnut of mucosa and submucosa proximal to the haemorrhoids, thus interrupting the blood supply but

maintaining continuity of the rectal mucosa. The stapled line was inspected for any bleeding and if present, haemostatic sutures were placed with 3(0) polyglactin. Postoperatively, patients were allowed oral intake after 4-6 hours. Post operative pain was assessed as per the requirement of doses of parenteral analgesia in the first 24-48 hours. Sitz bath and stool softener were prescribed for 2 weeks post operatively. Almost all the patients were discharged after second post operative day. They were followed up in the surgery OPD after 2 weeks, then after 2 months, 6 months and 1 year after the surgery. The results of SH were evaluated by focusing on the relief of symptoms, severity of post operative pain, and complications of SH.

RESULTS

There were total 32 patients of which 24 (75.0%) were males and 8 (25.0%) were females. The age varied from 34 to 66 years with a mean age of 50 years. (Table 1)

Age distribution with category of patients:

SN	Age distribution(yrs)	Male (%)	Female (%)
1	0-20	nil	nil
2	21-40	14 (58.3)	6 (75.0)
3	41-60	7 (29.2)	2 (25.0)
4	60	3 (12.5)	
	Total	24 (75%)	8 (25%)

In this study, only patients with grade III and grade IV hemorrhoids were included. There were 25 (78.1%) grade 3 and 7 (21.9%) grade 4 hemorrhoids. Their pre-operative presentation were prolapse haemorrhoids in all the patients (100%), bleeding per rectum in 22 (68.7%), constipation in 12 (37.5 %) and pain with or without discharge in 5(15.6%) patients. (Table 2) All of them underwent stapled haemorrhoidectomy under spinal anaesthesia with mean operating time of 40 – 60 minutes.

Post operatively, 12 (37.5%) patients over the age of 50 years developed acute urinary retention that was managed with indwelling Foley's catheterization for 24 hours. One patient presented in the emergency 24 hours after discharge with severe per rectal bleeding from the stapled line which was controlled successfully by haemostatic resuturing under spinal anaesthesia (Table 2).

2. Pre-operative and post operative Presentation

SN	Pre operative Clinical Presentation	Number (%)
1	Prolapse Mucosa	32 (100)
2	Bleeding per rectum	22 (68.7)
3	Constipation	12 (37.5)
4	Anal Pain	5 (15.6)
	Post Operative Complication	
1	Urinary Retention	12 (37.5)
2	Mild peri-anal pain	2 (6.2%)
3	Grade II Haemorrhoids	2 (6.2%)
4	Bleeding per rectum	(3.1%)

The assessment of post operative pain at 24 - 48 hours was interpreted the requirement of analgesia. In the first 24hours 6 (18.7%) patients required single dose intramuscular diclofenac sodium 75mg, 9 (28.1%) patients required double dose and 17 (53.2%) patients were given three doses. In the subsequent 24 hours, this analgesic requirement was significantly decreased. In this period, 10 (31.3%) patients requiring one dose and 5 (15.6%) requiring two doses and none requiring three doses. (Table 3)

3. Assessment of Post operative pain as requirement of analgesia

Assessment of pain 24 hrs after operation		
SN	Dose of Inj Diclofenac Sodium (75 mg)	No. of patients (%)
1	Single dose	6 (18.7)
2	Double dose	9 (28.1)
3	Three doses	17 (53.2)
Assessment of pain 48 hrs after operation		
SN	Dose of Inj Diclofenac Sodium (75 mg)	No. of patients (%)
1	Single dose	10 (31.3)
2	Double dose	5 (15.6)
3	Three doses	None

Six months after surgery 2 patients had recurrent 2nd degree hemorrhoids which were managed by Barron's gun banding at the outpatient department. Other than this, there were no complaints with other patients during follow up.

DISCUSSION

Many theories have been coined about the etiopathogenesis of hemorrhoids including venous varicosities of the anus, vascular hyperplasia in the hemorrhoidal vascular tissue, and a mucosal prolapse of the anal canal mucosa resulting in elongation and kinking of the upper and middle hemorrhoidal vessels.^{5,6} The operative time for stapled haemorrhoidectomy has been demonstrated to be shorter than open procedure in several trials and is generally reported at 15-25 minutes.⁷ Our average operating time of 40-60 minutes is almost double while comparing with other studies.⁸

Stapled haemorrhoidectomy is a simple, safe and effective alternative method for the treatment of symptomatic haemorrhoids with a relatively painless post operative period as it excises a circumferential portion of the lower rectal and upper anal canal mucosa and submucosa and performs a re-anastomosis with a circular stapling device. The strongest argument in favour of this operation is that it leaves the richly innervated anal canal tissue and perianal skin intact, thus reducing the pain usually associated with open method. Its indication includes

grade III and uncomplicated grade IV haemorrhoids. In the (Procedure for Prolapse and Hemorrhoids) PPH Multicentre Study Group trial it was demonstrated that stapled haemorrhoidectomy offers the benefits of less post operative pain, less analgesics requirements, and less pain at bowel movement.⁹ We have noted similar results in our series and no recurrence of symptoms on follow up. Similarly other studies presented that SH results in significantly lesser immediate postoperative pain than conventional excision techniques and offers more comfort to the patient.^{10, 11, 12}

Urinary retention is a common complication of anorectal surgery with an incidence between 1.5 to 32%.¹³ In our experience, urinary retention occurred in 37.5% of cases. The causes of urinary retention are uncertain, but perioperative fluid intake and perioperative pain are the possible precipitating factors.¹⁴ Other complications such as perforation of the rectum,¹⁵ pneumoretroperitoneum,¹⁶ pelvic sepsis¹⁷ and rectal obstruction¹⁸ have also been reported but were not encountered by us.

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