ORIGINAL ARTICLE

Stapled Hemorrhoidopexy: The Mayo Hospital Experience

MUHAMMAD RAFAIH IQBAL, YASEEN RAFI, SAAD JAVED, *KHALID JAVED ABID*

ABSTRACT

Objective: To evaluate clinical outcome after Stapled Hemorrhoidopexy.
Study design: Descriptive case study
Place and duration of study: West Surgical Unit, King Edward Medical University and Mayo Hospital Lahore over a period of 2 years from July 2008 to June 2010.
Method: A total number of 58 patients with symptomatic late second, third and fourth degree hemorrhoids were admitted. After taking informed consent and preoperative preparation all of them underwent Stapled Hemorrhoidopexy using 33mm circular stapling device (PPH 03, Ethicon Endo Surgery). Postoperatively pain scores, analgesia requirement, complications, hospital stay, return to routine activities and recurrence were recorded on a structured proforma. Follow-up was done at 2 weeks, 6 weeks and 1 year after the procedure.
Results: In 58 consecutive patients Stapled Hemorrhoidopexy was done with an operative time range of 20-45 minutes, average hospital stay was 1.3 days and return to daily routine activities on the 5th post operative day in majority of the patients. All patients were followed at the outpatient clinic for 1 year postoperatively. No deterioration of symptoms occurred during the follow up. Recurrence or procedure related adverse affects, in particular impaired continence or persistent anal pain were absent.
Conclusion: Stapled Hemorrhoidopexy is a safe procedure which results in less postoperative pain, minimal analgesia requirement, fast recovery and early discharge from the hospital.
Key words: Haemorrhoids, stapled haemorrhoidopexy,

INTRODUCTION

Hemorrhoids are one of the common conditions affecting the anorectal region[1]. Approximately 4% to 24.5%[2] of the population in UK is affected. Most of the symptomatic first and second degree hemorrhoids are usually successfully treated by high fibre diet in conjunction with bulking agents[3]. Surgical Hemorrhoidopexy is usually performed for third and fourth degree hemorrhoids .Surgical excision of hemorrhoids is effective in treating them but is usually feared by the patients due to the severe postoperative pain, which is usually worst during the passage of stool owing to direct stimulus of the wound and reactionary sphincter spasm[4].

Conventionally Hemorrhoidectomy is performed in one of the two ways: Milligan Morgan Hemorrhoidectomy[5] in which the wound is left open or Ferguson Hemorrhoidectomy[6] in which the wound is closed. Although, both of these techniques have been used for long but none of them has resulted in reduction of postoperative pain.

The technique of Stapled Hemorrhoidopexy was first described by Antonio Longo in 1993[7]. This technique involves simultaneous excision and stapling of the circumferential column of the mucosa and submucosa in the insensitive area above the dentate line using a circular stapling device. The procedure involves interruption of terminal branches of the superior hemorrhoidal arteries thus reducing the vascular congestion. This results in lifting the mucosa up in the anal canal, thus correcting the prolapse and reducing the arterial inflow[8]. As the procedure takes place above the dentate line so there is no perianal wound thus it is less painful, with a quicker recovery[9]. Several studies[10-13] have been performed and all have found that Stapled Hemorrhoidopexy is a safe and effective method. Most operations are being carried out as day case procedure with reduced bed occupancy and thus early discharge from the hospital. However, a major drawback is the cost of stapling device with its accessories[14,15].

We conducted this study to evaluate the clinical outcome of Stapled Hemorrhoidectomy considering the post operative pain, analgesia requirement and recurrence.

PATIENTS AND METHODS

During the period of 2 years (July 2008 - June 2010) 58 consecutive patients with symptomatic late second, third and fourth degree haemorrhoids

Department of Surgery, King Edward Medical University/ Mayo Hospital, Lahore
Correspondence: Dr Muhammad Rafaih Iqbal
Email: drrafaihiqbal@rcsed.ac.uk

between ages 20 to 75 years were enrolled in the study carried out in the West Surgical Unit of King Edward Medical University and Mayo Hospital Lahore. Their history and physical examination included per rectal examination followed by proctoscopy. Patients with strangulated or thrombosed haemorrhoids or had previous hemorrhoidectomy done or with concurrent anal pathology like anal fissure/anal fistula were excluded from the study. Baseline investigations were carried out. Informed consent was taken. After establishing fitness for general anaesthesia, patients were operated on elective list. Preoperative preparation included kleen enema administrated in evening before surgery and repeated on the morning of surgery. A single dose of intravenous third generation cephalosporin and Metronidazole were given at the time of induction. All patients were placed in lithotomy position for the procedure.

Stapled Hemorrhoidopexy was performed according to Longo's technique. A circular anal dilator was placed and fixed. A purse string suture of 2/0 polypropylene was applied at about 4 cm above the dentate line. Care was taken to take only the mucosa and the submucosa in the purse string. The distance of the purse string suture from the dentate line should be directly proportional to the extent of the prolapse so that the staple line should be a minimum of 2 cm above the dentate line. A well-lubricated 33 mm stapling instrument (PPH 03, Ethicon Endo Surgery) in a fully opened position was then inserted and the anvil was positioned above the purse string. The purse string was then pulled down on the shaft of the stapler and tied snugly. The stapler was then closed and fired. After firing, it was held firmly closed for approximately 30 seconds. This manoeuvre facilitated in the haemostasis. The stapler was then fully opened and withdrawn. The stapled line was inspected for bleeding. Any area of bleeding was underrun by using Vicryl 3/0. Doughnut was checked for its completeness and sent for histopathology.

Postoperative care was standard for every patient, which included regular analgesia, fiber supplements and laxatives. Post operative pain was accessed using the visual analogue scale (VAS) in which '0' corresponds to ''no pain'' and '10' corresponding to ''maximum pain'' (Table 1). The aim was to keep the pain down to a VAS of less than 3 at all times. Prescribed analgesics were classified according to the World Health Organization (WHO) system. During the hospital stay analgesia was administered on the basis of the VAS score in the following way: VAS < 3, a WHO class I analgesic (Paracetamol); between 3 and 5, a WHO class II analgesic (Paracetamol with Codeine/ Anti-inflammatory); VAS >5 , WHO class III analgesic (Paracetamol with Opiods). Patients were discharged home when pain control was achieved on oral analgesics.

Others parameters which were taken into consideration were the length of the hospital stay, the time to return to normal activities, complications, effectiveness in symptom control and to check for any recurrence.

Patient evaluation included a series of clinical examinations by the operating surgeon: prior to the procedure, then after 2 weeks, after 6 weeks and after 1 year. Preoperatively and 1 year postoperatively patients were asked to fill out a questionnaire about the symptoms of their disease, defecation, sphincter control. From this the effectiveness in symptom control, the outcome and patient satisfaction were evaluated.

Table 1: Visual Analogue Scale for pain

Patient symptom	Pain score	Level of pain
None	0	Mild
	1	
Annoying	2	
	3	Moderate
Uncomfortable	4	
	5	
Dreadful	6	Severe
	7	
Horrible	8	
	9	
Agonizing	10	

RESULTS

A total of 58 patients were operated, 49 (84.48%) were males and 9 (15.52%) were females. Mean age was 41.20 years (range from 20 – 75 years). Of the total 58 patients 3(5.17%) had second degree, 46(79.31%) had 3rd degree and 9(15.51%) had fourth degree hemorrhoids respectively (Table 2).

The most common problem reported pre operatively was something coming out of the anus. Others included bleeding, itching, discharge and pain (Table 3). 64% of the patients had the disease for more than 1 year. All the operations were uneventful. The mean operative time was 26 min (range 20 to 45 min). Mean hospital stay was 1.3 days (range 0-4 days). 4(6.89%) patients had postoperative bleeding out of which 3 were managed conservatively and in 1 patient the bleeder were oversween.

1n the first 24 hours post operative period 22(37.93%) patients had no pain, 28(48.27%) had mild, 5(8.62%) had moderate and 3(5.17%) had severe pain (Table 4). After 24 hours only 3 patients who had severe pain required parenteral analgesia, rest of them were given oral analgesia on as required basis. The first defecation occurred on the average

1.2 days post op (range 1 -3 days) with 90% of the patients having no pain or just grade 1 pain while defecating. At the 6 week follow up visit data showed that 49(84.48%) patients returned to work on the 5th day and had no wound management to do at home. 5(8.62%) patients failed to return on the 1 year follow up. Regarding control of the symptoms at 1 year (Table 5) 100% had no more mass coming out of the anus, 96.23% had no bleeding, 100% had no pain, 98.12% had no discharge, 94.34% had no itching, 100% had no incontinence. The results of the physical examination at this follow up revealed no recurrence.

Table 2: Degree distribution of hemorrhoids

Degree of haemorrhoids	=n	%age
Second degree	3	5.17
Third degree	46	79.31
Fourth degree	9	15.51

Table 3: Presenting complaints on admission

Presenting complaints	=n	%age
Something coming out of anus	55	94.82
Bleeding	49	84.48
Itching	23	39.65
Pain	13	22.41
Discharge	5	8.80

Table 4: 24hr postop pain score

Pain	=n	%age
No pain	22	37.93
Mild	28	48.27
Moderate	5	8.60
Severe	3	5.17

Table 5: 1 year follow up of complaints

Complaints	=n	%age
Something coming out of anus	0	0%
Bleeding	2	3.77
Itching	3	5.66
Pain	0	0
Discharge	1	1.88

DISCUSSION

Post operative pain after hemorrhoidectomy is one of the major reason of the patients reluctance to surgery. A large number of treatments have been proposed in order to reduce the post operative pain including the use of different surgical instruments (diathermy, scalpel, scissors)[16] , local or systemic injection of analgesics[17,18], antibiotics or associated procedures like lateral anal sphincterotomy[19] to reduce the post operative spasm of the sphincter but none of the above mentioned procedures have succeeded in really controlling the postoperative pain. Stapled Hemorrhoidopexy does not damage the sensitive mucosa of the anus thus results in controlling the post operative pain. Stapled haemorrhoidectomy is a safe and effective method of closed haemorrhoidectomy[20].

Like the other studies reprted in literature [21-25],the results of our study show that stapled hemorrhoidopexy is associated with a significantly less postoperative pain and discomfort. In our study this manifested as less analgesics requirement postoperatively , a shorter hospital stay, shorter delay before the first bowel movement, reduced pain during defecation, no need for wound treatment and an early return to normal life. Only 5% of the patients had severe pain which was controlled on routine analgesic use. There are several explanations for the post operative pain like, using a circular stapler results in the reduction of vascular supply to the haemorrhoids, thrombosis of the haemorrhoidal tissue left behind after the operation, placement of staple line too close to sensitive anal mucosa and placement of deep purse string incorporating rectal muscle and nerves resulting in postoperative pain.

The results of our study show that post operative morbidity was minimal. Molley and kingsmore[26] reported severe retroperitoneal sepsis after Stapled Hemorrhoidopexy and suggested routine antibiotic prophylaxis with this procedure. No patient in our study developed sepsis as prophylactic antibiotics (third generation cephalosporin and Metronidazole) were given to all the patients.

The occurrence of post operative haemorrhage is lower as compared to other studies. Paolo Boccasanta et al [10] have reported early and late bleeding in 12.5% of the patients who underwent Stapled Hemorrhoidopexy. In our study 4 (6.89%) patients had post operative bleeding, out of which 3 were managed conservatively and in 1 patient the bleeding point was oversween.

Other rare postoperative complications after Stapled Hemorrhoidopexy especially in females include rectovaginal fistula formation, which can be avoided by assessing the thickness of rectovaginal septum before inserting the purse string suture. Care should be taken not to place too deep a suture anteriorly during the placement of the purse string and the vagina must be examined before firing the stapler[27].

Anorectal stricture formation is also a known complication after Stapled Haemorrhoidectomy with a reported incidence of about 5%, it has been postulated that occurrence of stricture is due to the placement of the purse string and thus anastomosis below the accepted 4cm from the anal verge. Simple stricturoplasty or anal dilatation is all that is necessary for anorectal stricture formation after stapled haemorrhoidectomy. The most serious complication of stapled haemorrhoidectomy is

anastomotic dehiscence, though rare, its early diagnosis is important, as the resulting sepsis can be life threatening. Management should follow laparotomy, peritoneal lavage, anastomotic repair and defunctioning colostomy[27].

Other complications are rectal perforation, retroperitoneal sepsis, rectal obstruction and even mortality[15]. None of these complications occurred in our group of patients.

CONCLUSION

Stapled Hemorrhoidopexy is a safe procedure which is well tolerated by the patients with less post operative pain, reduced analgesia requirements, reduced hospital stay and is not associated with any greater morbidity . Long term outcome is good.

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