



Stapler Haemorrhoidopexy for Treatment of Haemorrhoids– Our Initial Experience

Authors

Ashish Agrawal^{1*}, Amit Katlana², Vinita Agrawal³, Prateek Porwal⁴

¹Professor, Department of General Surgery,

²Associate Professor Department of General Surgery

³Professor Department of Obstetrics and Gynecology

⁴Postgraduate Department of General Surgery

IMCHRC, Indore, M.P. INDIA

ABSTRACTS

Background: Stapler haemorrhoidopexy is relatively painless alternative to conventional haemorrhoidectomy by avoiding multiple excision and suture line in perianal region.

Aims: to report and analyse intra and postoperative results of stapler haemorrhoidopexy (SH).

Methods: 34 patients were managed by Stapler haemorrhoidopexy (SH) over two and half year. The primary outcome measured were the analgesic requirement in postoperative period and time taken to resume ADL.

Results: 34 patients with grade III and IV haemorrhoids underwent SH under spinal anaesthesia. In the first 24 h 6 patients required a single dose of Injection Diclofenac Sodium while 18 patients required two doses and 10 patients had to be given three doses. 12 patients (35.3%) achieved Katz Index of Independence in Activities of Daily Living score of 6 on the first post-operative day and another 18 (52.9%) on the second post-operative day. By the fourth post-operative day all patients had achieved a score of 6.

Keyword: Activities of daily living (ADL), Haemorrhoids, Stapler haemorrhoidopexy:

Introduction

Haemorrhoidal disease is common and symptomatic haemorrhoids which affects more than one million individuals per year⁽¹⁾. The conventional haemorrhoidectomy like Milligan-Morgan and Ferguson techniques are associated with low complications and excellent results in terms of relief of symptoms. But due to removal of innervated anoderm below the dentate line and perianal skin^(2,3,4,5) these methods of surgery are usually associated with considerable postoperative pain which necessitates prolonged recovery period.

Stapler haemorrhoidectomy (SH) is a minimally invasive intervention, introduced by Longo in 1998⁽⁶⁾, that uses a stapling device. it represent radical change in the treatment of haemorrhoids by avoiding multiple excisions and suture lines in sensitive perianal area and thus offer less post-operative pain than with conventional technique.

Several randomized controlled trials^(7,8,9,10,11,12) assessed results of stapler haemorrhoidopexy. Results of These studies have consistently shown a decrease in postoperative pain, analgesic requirement, length of surgical procedure, shorter hospital stay and early return to daily activities.

SH is reported to be effective in the treatment of second and third-degree haemorrhoids with low morbidity, high patient satisfaction and good long-term of haemorrhoidal symptoms.

It is not routinely performed in our hospital

The purpose of the present study is to report the prospective data regarding our initial experience with stapler haemorrhoidopexy, comparing the results with those published in the literature.

Methods and Material

This study was conducted over a period of two and a half years, from feb 2014 to sep 2016 in dept. of surgery at Index medical college,hospital and research centreIndore after taking approval from hospital ethical committee.

A total of 34 patients were treated with SH. The procedure was performed by single surgeon using Ethicon Endosurgery PPH 30mm circular stapling device.

Study was performed on 34 consecutive patients undergoing elective surgery for symptomatic haemorrhoidal disease (Grades III and IV) after taking informed consent.

Exclusion criteria:

- Patients with thrombosed or gangrenous internal or external haemorrhoids,
- Those with presence of anal stenosis, fissure, fistula, perianal abscess and rectal prolapse and
- Those who had undergone previous anorectal surgery or injection sclerotherapy with resultant scarring of the anal canal

All patients were subjected to detailed preoperative evaluation including

- inspection during straining,
- digital rectal examination and
- anoscopy.
- Colonoscopy was advised only to patients with positive family history of colon cancer, age > 50 years or had concomitant anaemia.

The procedure was explained to the patient and consent obtained.

All cases were admitted on the day prior to surgery and placed on fluid diet. Bowel preparation was done with exelyte solution.

All patients operated under spinal anaesthesia in lithotomy position. After dilatation of anal canal, a purse string suture was placed over the mucosa and sub mucosa about 3-4 cm cephalad the dentate line with 2/0 polypropylene. Subsequently a circular stapler was introduced. The anvil of the device was placed proximal to the purse string and the suture was tied and that pulled the attached rectal mucosa into the stapler. Closure of the anvil and firing of the stapler simultaneously excised a doughnut of mucosa and sub mucosa proximal to the haemorrhoids. The stapled line was inspected for any bleeding and if present, haemostatic sutures were placed with 3/0polyglactin. Dressing is applied and operative time and blood loss was assessed and recorded.

The patient was permitted to take oral fluids after 6 h of surgery.

Pain was assessed at 6 h, 12 h, 24 h and 48 h, as per the Visual Analogue Scale, and requirement of analgesia was recorded. Inj. Diclofenac Sodium, 75 mg intramuscular, was administered to patients who had a VAS score of > 4 and oral NSAID (combination of diclofenac 50 mg with Paracetamol 500 mg) was given to others with VAS scores below that. All cases also received intravenous Injection ceftriaxone 1gm and Injection Metronidazole 500 mg just prior to surgery followed by oral Ciprofloxacin 500 mg and Metronidazole 400 mg combination for 3 days post-operatively. Sitz bath and stool softener advised postoperatively. Almost all patients discharge after second postoperative day.

The primary outcome measures assessed were the requirement of injectable analgesic in the first 48 h post-operatively and the time taken to resume Activities of Daily Living (ADLs) which was evaluated using the Katz Index of Independence in Activities of Daily Living.⁵ The Index ranks adequacy of performance in the six functions of bathing, dressing, toileting, transferring, continence, and feeding. Patients are scored Yes/No for

independence in each of the six functions. A score of 6 means full function, 4 means moderate impairment, and 2 or less indicates severe functional impairment.

The results of SH were evaluated by focusing on the relief of symptoms, severity of postoperative pain, and complications.

All patients were subsequently followed up for additional outcome measures such as; presence of bleeding per rectum (defecation bleeds), prolapse of mass per rectum, incontinence to flatus/stool, post-operative urinary retention, requirement of a repeat procedure, presence of post-operative anal stenosis, and residual external haemorrhoids at 1 week, 1 month, 3 months, 6 months and 1 year after the surgery. The follow-up was during OPD visits.

Results

Total of 34 patients, symptomatic with bleeding per rectum, were included in this study out of which 22 (64.7%) were males and 12(35.3%) were females. And their age varied from 28 to 73 years with a mean age of 48 years. In this study, only patients with grade III and grade IV haemorrhoids were included. There were 26 (76.5%) grade 3 and 8 (23.5%) grade 4 haemorrhoids. Their pre-operative presentation were prolapse haemorrhoids in all the patients (100%), bleeding per rectum in 22 (64.7%), constipation in 12 (35.3 %) and pain with or without discharge in 5(14.7%) patients. All of them underwent stapler haemorrhoidectomy under spinal anaesthesia with mean operating time was 25min (range 20 -45 minutes) and average blood loss was 22ml (range 15-35ml).

The post-operative VAS score at 6 h, 12 h, 24 h and at 48 h is depicted (Table 1).

In the first 24 h—6 patients (17.65%) required a single dose of Injection Diclofenac Sodium while 18 (52.94%) patients required two doses and 10 patients (29.41%) had to be given three doses.

In the next 24 h-- the corresponding figures were 9 patients requiring one dose, 6 requiring two doses and none requiring three doses (Table 2).

12 patients (35.29%) achieved Katz Index of Independence in Activities of Daily Living score of 6 on the first post-operateday and another 18(52.94%) on the second post-operative day (Table 3). By the fourth post-operative day all patients had achieved a score of 6.

Minor bleeding per rectum in the first 48 h, which did not require any intervention, was noticed in 18 (52.94%) patients. It was still present in 5 patients at 1 month and finally disappeared altogether at 3 months of follow-up.

One patient presented in the emergency 48 hours after discharge with severe per rectal bleeding from the stapled line which was controlled successfully by haemostatic resuturing under spinal anaesthesia

Eight (23.53%) patients had postoperative urinary retention most of them were above 50 yrs which/and required catheterization.

One patient (2.94%) developed postoperative thrombosis of the external haemorrhoidal mass after 72 h which was managed conservatively.

4 patients at 1 week and 2 patients at 1 month complained of prolapse of mass per rectum during defecation. Both however, recovered and became symptom free at 3 months of follow-up.

No patient reported incontinence to flatus or stool and none developed anal stenosis (Table 4).

Six months after surgery 2 patients had recurrent 2nd degree haemorrhoids which were managed by rubber band ligation at the outpatient department. Other than this, there were no complaints with other patients during follow up.

Discussion

Several randomized trials comparing stapler haemorrhoidopexy with conventional haemorrhoidectomy were conducted to test the feasibility and efficacy of the technique^(3,7,8,9,10,12).

A systematic review conducted by SUTHERLAND et al⁽¹²⁾ that included seven prospective randomized trials comparing stapler haemorrhoidopexy (SH) with conventional haemorrhoidectomy, found strong evidence in favour of the stapler procedure considering length

of surgical procedure, anal bleeding during the first 2 weeks and postoperative pain, analgesic consumption, healing and return to normal activities. These results are in agreement with a multicentre study⁽⁷⁾ that found a significant reduction in period of hospitalization (mean 1 day vs. 2 days). In this study, 90.3% of patients were discharged on the first postoperative day. And most of their patient had returned to daily routine work and resume of normal activities took place after 3 to 14 days, with a mean period of 6 days.

In the another multicentre Study Group trial⁽¹⁴⁾ was also demonstrated that stapler haemorrhoidopexy (SH) offers the benefits of less postoperative pain, less analgesic requirements, and less pain during defecation, while providing similar control of symptoms and less frequent need for additional anorectal treatments at 1-year follow-up.

Our experience with SH comes out with similar results. all our patients had a post-operative VAS score of <4 after 48 h and no recurrence of symptoms on follow-up.

The operative time for SH has been demonstrated to be shorter than conventional haemorrhoidectomy in several trials and is generally reported at 15–25 min. Our average operating time of 25 min is similar to that in other studies.^(15,16)

Because of the personal preferences and employability compulsions of our patient population the length of stay in the hospital is difficult to interpret and compare. Hence we have used the Katz Index of Independence in Activities of Daily Living score and found that by the fourth post-operative day all our patients had achieved the top score of 6.

Many authors^(3,4, 9, 10, 12) highlighted that reduction of postoperative pain and need for analgesics are most attractive features of the stapling technique. In our series, analgesia has been achieved with oral medications in 84.5% and not required further after fifth postoperative days in most of the cases. This lower incidence of postoperative pain would be a consequence of less trauma to the anal region and a faster healing of surgical wound (4-7 weeks

for the conventional technique vs. 1-2 weeks for the stapling technique^(11, 12).

SH is simple to perform but, if not done carefully, it can be associated with a number of serious complications. The most important technical step in SH is proper placement of the purse string suture. It must be placed at least 3–4 cm cephalad the dentate line and should incorporate all of the redundant tissue circumferentially. Rectovaginal fistula has been reported after SH and represents a potentially devastating complication of treatment for a benign disease.⁽¹⁷⁾ It can be avoided by carefully and frequently examining the vagina at multiple times during the application of the purse string and insertion of the stapler. No such complication developed to any female patients of our study. Rectal perforation has been reported and was likely caused by a very low peritoneal reflection incorporated into the anastomosis.⁽¹⁸⁾

This was also encountered by s.s.jaiswal et al. and was clinically manifest on the 5th post-operative day with features of generalized peritonitis in their study. Other complications such as pneumoretroperitoneum⁽¹⁹⁾ pelvic sepsis⁽²⁰⁾ and rectal obstruction⁽²¹⁾ also been reported but they are fortunately rare and were not encountered by us.

HETZER et al⁽¹³⁾ found no difference in the occurrence of recurrent haemorrhoidal disease when comparing the SH and conventional procedures. However, other authors reported a higher recurrence with the SH specially with fourth degree haemorrhoidal disease⁽¹⁰⁾. We had two cases of recurrence (1.3%) in originally grade IV haemorrhoid and successfully managed with rubber band ligation in opd bases.

After analysis of the early postoperative results, evaluation of functional results focused on several studies^(7, 9, 10, 11).

Some surgeons are still afraid of a higher risk of stenosis with SH. Nevertheless, there is no evidence in the literature to support this statement. In fact, SHALABY and DESOKY⁽¹¹⁾ reported a stenosis frequency of 2% in the SH group and of 5% in the conventional haemorrhoidectomy

group. Similarly to other series^(2,3), no cases of anal stenosis were verified during our follow up.

Long-term evaluation of results and complications of stapler haemorrhoidopexy are still lacking in the literature^(22,23). SMYTH et al.⁽²³⁾ published a series of patients underwent to SH with follow-up of 37 months and found no significant differences in terms of quality of life, functional outcomes and recurrence.

There is some limitations in our study in results interpretations because of the fact that our study is a prospective non-randomized trial. However, as stated above, our results are similar to other, already published large prospective randomized and non-randomized trials that validate the benefits and restrictions observed with this new technique in the management of advanced haemorrhoids.

Conclusion

In agreement with other published series, stapler haemorrhoidopexy may be considered a feasible and safe procedure associated with lower postoperative pain, earlier return to normal activity and less complication rates compare to the conventional techniques.

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