Original Article

Short term clinical outcome of stapled haemorrhoidectomy

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Abstract

Objective: To evaluate short term clinical outcome after stapled haemorrhoidectomy.

Methods: From May 2005 to Oct 2007, 55 patients with symptomatic late 2nd and 3rd degree haemorrhoids were admitted to Surgical Ward 2, Jinnah Postgraduate Medical Centre. All of them underwent stapled haemorrhoidectomy after routine preoperative preparation. Postoperatively, pain scores, complications, hospital stay, return to routine activities, and patient satisfaction was recorded on a structured proforma. Follow-up was done weekly for 4weeks then at 2nd, 3rd and 6th month.

Results: In 55 consecutive patients stapled haemorrhoidectomy was done with an operative time range of 21-30 minutes, average hospital stay was 2 days and return to daily routine activities was within one week in majority of the patients. All patients were followed at the outpatient clinic for six months 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: Despite the cost and difficult access, stapled haemorrhoidectomy results in less postoperative pain, fast recovery and patient satisfaction (JPMA 60:335; 2010).

Introduction

Haemorrhoids is a common condition of anorectal region.[1] Surgical excision of haemorrhoids is effective in treating haemorrhoidal prolapse but is still much feared by the patients, because of ensuing postoperative pain, which is usually worst during the passage of stool owing to direct stimulus of the wound and reactionary sphincter spasm.[2]

Technical modifications have been adapted to decrease postoperative pain which includes lateral internal sphincterotomy, closed haemorrhoidectomy, diathermy haemorrhoidectomy and use of anal sphincter relaxants like glycerol trinitrate (GTN) ointment or postoperative use of metronidazole. Although, all of these techniques have had advocates, none has resulted in sufficient decrease in postoperative pain to gain universal acceptance. A new approach to the treatment of haemorrhoids, is transverse mucosal prolapsectomy using a circular stapling device at the anorectal junction at a distance between 3 and 4 cm above the dentate line. This technique involves interruption of terminal branches of the superior haemorrhoidal arteries and resection of part of the prolapsed mucosa. This lifts the mucosa up in the anal canal, thus correcting the prolapse and reducing the arterial inflow.[3] The procedure involves circumferential excision of tissue in the area above the dentate line without causing a perianal wound thus it is less painful, with a quicker recovery.[4] Procedure for prolapse and haemorrhoids (PPH) does not treat any external components of the disease or other perineal conditions like anal fissures, hypertrophied anal papillae and acute thrombosis, so that the patient must be informed by the surgeon that these conditions will not be treated by this procedure alone.[5] Most operations for haemorrhoidectomy are being carried out on a day-case basis with reduced bed occupancy, and hence lessen the economic burden on an already stretched health service. In addition, early return to work may also be possible with potential benefit to the individual and society. However, a major draw back is the cost of stapling device with its accessories.[6]

As no local data is available to assess the short and long term effects of Stapled Haemorrhoidectomy, we conducted this study to evaluate the short term results of stapled haemorrhoidectomy in maintaining symptom remission and to identify possible procedure related adverse effects.

Patients and Methods

Over a period of 30 months (May 2005-Oct 2007) 55 consecutive patients with symptomatic late 2nd and 3rd degree haemorrhoids were enrolled in the study at ward 2 Jinnah Postgraduate Medical Centre. Patients were first clerked in the outpatient and were recruited after counseling and written consent. Their history and physical examination included per rectal examination followed by proctoscopy and sigmoidoscopy. After establishing fitness for general anaesthesia, patient was put on elective list. Preoperative preparation included disposable (kleen enema) administrated in evening before surgery and repeated on the morning of surgery. Operations were performed under general anaesthesia, with single dose of intravenous Cefalexine and Metronidazole given at the induction, all patients were placed in lithotomy position for the procedure. Postoperative care

was standard for every patient, which included regular analgesia, fiber supplements and laxatives. Patient stayed in hospital for 24 hours on injection nalbuphine Hydrochloride 10mg i/v 8hourly and metronidazole 500mg i/v 8hrly.Pain score was recorded by using visual analogue scale (VAS), ranging from 0 to 3. Patients were discharged home when pain control was achieved on oral analgesics. During follow up all patients were reviewed at 1st, 2nd, 4th week, and then at 2nd, 3rd and 6 month after the operation. Patients were questioned about their overall satisfaction with the procedure and regarding any possible adverse symptoms using the same structured questionnaire. Per rectal and protoscopic examination was carried out to assess any residual prolapsed mucosa and staple line stenosis. Beside these regular visits patients were free to come any time in case of any problem

Results

A total of 55 patients were opearted. The male to female ratio was 3:1 with a median age of 39 years (range 20-60 years). Most (88%) patients were operated in 21-30 minutes of duration. Three patients had intra-operative technical difficulty in sheath placement, in seven patients there was bleeding from staple line, three of them required haemostatic sutures at bleeding site, in the rest pressure packing for few minutes achieved haemostatic control. Five patients had an incomplete doughnut (resected rectal mucosa came out with the stapled gun following resection and anastomosis). Sixteen patients had no post operative pain, thirty four had mild/ grade 1 pain, three had moderate/grade2 and two suffered from severe/grade3 pain. After 24 hours of surgery six patients required inj: Nalbuphine Hydrochloride, ten required Diclofenac Sodium 75mg, and eighteen required tab: Diclofenac Sodium 50mg. In five patients secondary haemorrhage occurred which was managed conservatively, five patients developed urinary retention, three of them required temporary catheterization, two patients suffered from superficial anal fissure which was managed by 0.2% GTN ointment, five had painful defecation managed by regular analgesic use and stool softeners. Postoperatively forty seven patients stayed in hospital for two days, forty-eight patients returned to routine work in six days, one patient developed staple line stenosis 4 weeks after operation managed by anal dilatation. Most patients were satisfied by virtue of less postoperative pain, minimal hospital stay and early return to normal activity.

Discussion

Stapled haemorrhoidectomy offers a simple, safe and effective method of closed haemorrhoidectomy,[7] its use for treatment of symptomatic haemorrhoids has become increasingly popular over the past few years.[8] Indications of PPH includes grade III and uncomplicated grade IV haemorrhoids that are reducible at operation or after manipulation in the operating room in patients where other treatments failed. While, its contraindications include anal abscess or gangrene because the operation does not remove the source of sepsis.[5] In determining the efficacy and cost effectiveness of any new procedure it is essential to demonstrate its durability in resolution of symptoms. Initial experience of this technique has largely been promising, however, there have been reports of immediate[9] and medium[10] term complications. Data presented in studies demonstrate favourable results with sustained relief of symptoms in a large cohort of patients with no evidence of significant complications, in particular, postoperative pain, bleeding and urgency. More importantly patients did not complain of deterioration or recurrence of symptoms, indeed there was a trend towards continuing improvement.[11] In the present study presence of postoperative pain was comparable with studies performed world wide, which ranged from absent to mild and moderate degrees. Only 4% 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.[8]

Persistent post defecation pain has been confirmed as a genuine complication of circular stapled haemorrhoidectomy, affecting a small proportion of young male patients. Neural damage leading to rectal muscle hyperactivity may be contributory. The condition responds promptly to oral nefidipine therapy with restoration of quality of life.[12] Per operative bleeding was seen in few patients and occurred from stapled line requiring haemostatic stitches and secondary haemorrhage was present on 4th to 5th post-operative day and was managed conservatively. While faecal urgency noticed in different studies was not found in any of our patients within the follow up of six months. Transanal introduction of stapling devices has been shown to result in internal anal sphincter injuries,[13-15] as the 33mm diameter circular anal dilator of PPH set distend the anal canal all over its circumference, it is likely that the more extensive and prolonged anal dilatation increased the rate of anal sphincter injury[16] although asymptomatic anal sphincter injuries have been reported previously after stapled haemorrhoidectomy,[17] transanal surgery[18] and transanal stapling device insertion,[10] due to adequate compensation from reserves in anal sphincter muscle particularly in the young age group. In our study a clinical follow-up was done that did not show any evidence of sphincter functional deficit, only 2% of patients suffered from

staple line stenosis after four weeks of surgery, which was treated with anal dilatation, few of the patients had painful defecation that settled on regular analgesic use and stool softeners. Acute and delayed urinary retention are common after stapled haemorrhoidectomy. Acute retention results from combination of anaesthesia, post operative pain and anxiety. After, a trial of conservative methods these patients require temporary catheterization, which can be successfully removed after one day, few of the patients require a longer period of catheterization.[8] Delayed urinary retention following the surgery associated with fever is an ominous sign that indicate pelvic sepsis.[19] In the present study 13% of the patients developed acute urinary retention none of which had associated fever.

Other rare postoperative complications after PPH have been reported that reflect a combination of learning curve and incorrect patient selection including 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.[8]

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.[8]

Other complications are rectal perforation, retroperitoneal sepsis, rectal obstruction and even mortality.[5] None of these complications occurred in our group of patients.

Conclusion

The circular stapled procedure for haemorrhoids is superior in terms of postoperative pain, discomfort, anaesthesia time and return to normal activity. Also, it is a straightforward and easy to learn procedure. Early functional and symptomatic outcome have been satisfactory, however, long term follow up with respect to these factors is necessary.

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