

Stapler Haemorrhoidopexy - our experience in a tertiary care hospital of central India

Rakhonde AK¹, Chanchalani R²

¹Dr. Anant Kumar Rakhonde, Associate Professor, Department of surgery, Chirayu Medical College and hospital, Bhopal, ²Dr. Roshan Chanchalani, Associate Professor, Department of surgery, Chirayu Medical College and hospital, Bhopal, MP, India

Address for Correspondence: Anant Kumar Rakhonde, Email- arakhonde1@gmail.com.

Background: Symptomatic haemorrhoids poses a very big issue on the public health. Treatment options for haemorrhoids is surgery for 2nd, 3rd, 4th degree haemorrhoids, but due to fear of surgery due to pain patients usually tries to avoid it and later on comes with complications which in turn adds for increased morbidity and mortality. Since stapler haemorrhoidopexy is claimed to be superior than other available procedures for haemorrhoids the study is undertaken to evaluate the efficacy in terms of operation time, post-operative pain, hospital stay, return to normal activity and return to work, relapse of symptoms, recurrence and patient satisfaction. **Material and Methods:** The Study was done using a circular stapling device for the treatment of Symptomatic haemorrhoids grade 2, 3 and 4 over a period from November 2011 to December 2014 for age group between 22 to 78 yrs of age. **Observations:** Total 88 patients with symptomatic haemorrhoids who agreed for treatment with stapler surgery for haemorrhoids were operated. Operative time ranged between 55- 20 min. with mean operative time 36.44 min. Post-op pain measured using Visual analogue scale after approx. 24 hrs and is in the range of mild pain (0-2) in 82 (93.18%) patients. Post-operative pain: In 4 (4.54%) patients were having VAS between 2-4 and required injection diclofenac sodium analgesic to be added for pain in the regime. 2 patients (2.27%) complaints of unbearable pain and opioid analgesic has to be added in such cases but for 2 days. Mean hospital stay ranges between 23 hrs -80hrs. All the 82 patients (93.18%) patients returned to normal activity within 4-5 days and joined their respective field of work within 7-8 days. **Conclusion:** Stapler haemorrhoidopexy is a good alternative to the open surgery for the treatment of 2nd, 3rd, and 4th degrees haemorrhoids in terms of less pain, early return to normal activities, faster return to work, but high cost of instrument puts the procedure to back foot.

Key words: Stapler Haemorrhoidopexy, haemorrhoids, Symptomatic haemorrhoids

Introduction

Hemorrhoids are “anal cushions” which assist in continence of air and liquid by providing a final seal in the anal canal. The typical “angio-cavernous structure” controls blood volume regulation, which increases and decreases the size of the hemorrhoids. The emptying and filling is believed to be controlled by receptors which detect the presences of gas and liquid in the anal canal [1].

Due to degenerative changes with old age, the connective tissue (also k/a Suspensory ligaments of Parks) supporting these anal cushions becomes loose and lax resulting in their descent and prolapsed. Other predisposing factors which contributes to the prolapse are faulty life style, dietary habits, faulty bowel habits,

chronic straining at stools, chronic constipation, diarrhoea, purgative abuse, increased intra-abdominal pressure etc. leads to formation of haemorrhoids.

Anal cushions are present at 3'o, 7,o and 11,o clock position these are known as primary haemorrhoids and are related to the branches of superior haemorrhoidal vessels. Sometimes in between these primary haemorrhoids there may be dilatation and prolapsed of anal mucosa forming secondary haemorrhoids. Haemorrhoids are also classified as Internal Hemorrhoids: Develop within the anus beneath the mucosa above the dentate line. Sometimes, an internal hemorrhoid may stretch until it bulges outside the anus. This is called a prolapsed hemorrhoid.

External Hemorrhoid [2] Develop below the dentate line, near the anus and are covered by very thin

Manuscript received: 16th June 2015
Reviewed: 24th June 2015
Author Corrected: 4th July 2015
Accepted for Publication: 20th July 2015

sensitive skin sometimes caused due to inflammation of peri anal glands or constipation. If a blood clot develops in one of them, a painful swelling may occur which is known as peri anal hematoma.

Haemorrhoids are also classified according to Degree [1]

- **1st Degree**
(Bleeding without prolapse)
 - **2nd Degree**
(Prolapse with spontaneous reduction)
 - **3rd Degree**
(Prolapse with manual reduction)
- **4th Degree**
(Irreducible Prolapse)

Material

The prospective study was done in Chirayu Medical College and Hospital from November 2011 to December 2014 for age group between 22 to 78 yrs of age. Both males and females patients were taken into consideration. In total 88 patients were operated using stapler.

Inclusion Criteria: All the symptomatic patients suffering from Grade 2,3 and 4 haemorrhoids and consented for surgery by this method.

Exclusion criteria: Grade 1 haemorrhoids, asymptomatic haemorrhoids, Thrombosed haemorrhoids, perianal abscess history of previous rectal surgery, haemorrhoids during pregnancy, patients with coagulation disorder

Methods

The Study was conducted using a circular stapling device for the treatment of Symptomatic haemorrhoids (grade 2,3 and 4) (Ethicon PPH03 and Covidien stapler) for surgery. Clearance is taken from the ethical committee. After careful selection of patients, routine investigations and pre anaesthetics check-up was done. The patient is scheduled for surgery under spinal anaesthesia and is given lithotomy position. Enema was given in the morning and ensured that the patient has passed bowel before surgery. Injection ceftriaxone 1gm. i.v. is given before surgery. **Procedure:** The prolapse if any is reduced. The anal verge is gently massaged and dilated before inserting the circular anal dilator. The circular anal dilator with the obturator in place is inserted and the obturator is removed. The anal dilator is

secured to the skin with silk sutures. The dentate line identified. The transparent circular anal dilator allows easy introduction of the instrumentation, view of dentate line, and protection of the internal sphincter and dentate line. The Purse-String Suture Anoscope is introduced through the dilator. The circumferential purse-string is placed at the correct height (**at the tip of the anoscope**) and depth (**only mucosa and sub-mucosa**). After each stitch the Purse-string Suture Anoscope is extracted, then rotated and inserted again. The purse string sutures are placed close together (6-10 small bites) to allow better traction of the mucosal prolapse. 2.0 prolene is used for taking purse string. The Hemorrhoidal Circular Stapler is fully opened prior to insertion through the dilator. The anvil is positioned beyond the purse-string which is tied onto the rod with a throw-knot. Using the Suture Threader the tails of the purse-string are drawn down through the lateral channels of the stapler. Moderate traction on the purse-string when inserting the stapler draws the mucosal prolapse into the casing of the stapler. The stapler is closed all the way down to ensure the staples are compressed enough to provide the tightest staple line. In females, check the vagina to ensure that the posterior vagina wall is not incorporated in the staple line. It is recommended to wait 30 seconds before firing and approximately 30 seconds after firing. Stapler is removed. Anoscope is reinserted for careful inspection of staple line and application of stitches on any bleeders if necessary. Packing the anal canal is not recommended but we are routinely packing the anal canal with pack soaked in xylocaine jelly and povidone iodine to improve hemostasis and to reduce post op pain. Doughnut is checked for any muscle layer removed accidentally and to confirm that only mucosa and submucosa is included in the purse string. Routinely doughnut removed is sent for H-P Examination to see for any muscle fibres. External hemorrhoids were not touched and are explained to the patient during counseling and patient empowerment before surgery. All doughnuts removed were sent for histo-pathological exam. Out of 88, 8(9.09%) were showing thin rim of muscle also along with mucosa and submucosa. No other significant abnormality was seen & rest 80 (90.91%) were showing only rectal mucosa and submucosa.

Patients were started with fluids orally gradually encouraging to soft diet within 4-6 hours following surgery. When the patient gained consciousness and when the effect of spinal anesthesia has gone, Pain scores were noted down using VAS (visual analogue

scale) at 6-8 hrs of surgery. As a protocol a single dose of i.v.paracetamol (1gm.) infusion is given at the end of procedure and is repeated on SOS basis. If VAS score is more than 2 injection diclofenac sodium 75 mg is added and pain control is noted. The patient is given injection tramadol if VAS is more than 4 or pain not controlled by either of above two. The patient is discharged when pain free and passed motions. Every patient is prescribed laxative in the post operative period for approximately a month. Patients were followed up on day 7,15, 30th and 6 months. 83 (94.31%) patients gave relief of symptoms within 3 to 4 weeks following surgery and 5 patients (5.69%) had relieved upto 6 weeks. 2 patients complained of bleeding at -3 months following surgery which was managed conservatively by laxative. At 6 months follow up, 82 (93.18 %) patients are satisfied, 4 patients (4.54%) are partially satisfied and 2 patients (2.27%) patients are un-satisfied, which has raised to 84 (95.45%) at one year . The foremost cause of dissatisfaction is more cost of the stapling device and misconceptions of the patient regarding the procedure.

Results

Total 88 patients with symptomatic haemorrhoids who agreed for treatment with stapler surgery for haemorrhoids were operated. Out of which 62 (70.45 %) were males and 26 were females (29.54%). Most common complaint was bleeding PR seen in (90%) of cases followed by constipation 60% and prolapsed (something coming out or felt at anus) 43%. **Operative time** ranged between 55- 20 min with mean operative time 36.44 min. post-op pain measured using Visual analogue scale after approx. 24 hrs and is in the range of mild pain(0-2) in 82 (93.18%) patients. **Post-operative pain**-In 4 (4.54%) patients were having VAS between 2-4 and required injection diclofenac sodium analgesic to be added for pain in the regime. 2 patients (2.27%) complaints of unbearable pain and opioid analgesic has to be added in such cases but for 2 days. **Mean hospital stay** ranges between 23 hrs -80hrs. 81 patients (92.04%) were discharged within 24 hrs of surgery, 5 patients (5.68%) were discharged within 36-40 hrs. and 2 patients (2.27%) required 72-80 hrs of hospitalization.

Operating Time- The mean operating time was reported and analysed in various trials [11,12,13,14,15,16,17,18,19,20,21,22].

All the 82 patients (93.18%) patients returned to **normal activity** within 4-5 days and joined their respective field of work within 7-8 days. All the patients were followed up on 7th day, 15th day and 1 and half month, 6 months and 1 year.

Discussion

The earliest reference of haemorrhoids dates back to Egyptian papyri of 1700 BC and the first surgical treatment described in the Hippocratic Treatises of 460 BC [3]. Haemorrhoids and piles terms are used synonymously and interchangeably, collectively it is referred as "Haemorrhoidal disease" [4]. Open haemorrhoidectomy (Milligan Morgan and Ferguson techniques) has been accepted world wide as the best choice for treatment of symptomatic haemorrhoids [5,6,7]. Although the technique is safe and effective it is associated with much post operative pain and due to this very reason the technique is not well accepted by the patients and different approaches have been advocated from time to time [8,9]. Stapler haemorrhoidectomy was introduced in 1993 as an alternative to traditional methods of operative treatment of symptomatic haemorrhoids and is refined and practiced by Antonio Longo [10]. In this method excision of a strip of mucosa and submucosa done in the rectum above dentate line and is re-anastomosed using a circular stapling device. The procedure is claimed to be associated with less morbidity, less postoperative pain, earlier return to normal activities but requires skill to perform and still under study to be accepted for widespread use. So many studies were done on the treatment of haemorrhoids and were published from time to time.

Shalaby and Desoky et al in 2001 [11] reported a mean age group of 44 years with a male to female ratio of 3:2 .maximum patients had grade 4 haemorrhoids. Similarly other researchers also gave there results which is summarized in the table. And in which our results can be comparable to any national or international studies.

Table showing operating times by different authors

Study / Authors	Operating Time in minutes
RowSELL et al, 2000 [15]	35
Shalaby and Desoky ,2001 [11]	9
Gravie et al 2005 [13]	21
Bharti et al,2012 [24]	29
R Gajbhiye et al, 2014 [25]	31.76
Present study	32.4

Studies have shown the difference in time taken for the procedure and our results are comparable with the other studies.[11,15,23,24,25].

Post-operative pain- Postoperatively pain was scored on visual analogue scale, 0 indicating no pain and 10 severe pain. The pain score for stapled haemorrhoidectomy was significantly lower. The pain score noted was 2.5 by Rowsell et al and Shalaby and Desoky [11,15] and 2.31 by R Gajbhiye et al [25]. In our study, 93.19% pts. Showed the pain score between 0-2. In 4 (4.54%) patients were having VAS between 2-4 and required injection diclofenac sodium analgesic to be added for pain in the regime. 2 patients (2.27%) complaints of unbearable pain and opioid analgesic has to be added in such cases but for 2 days [11,15,25].

Length of Hospital Stay- Data for mean hospital stay was studied from world literature and compared, showed a shorter hospital stay for stapler haemorrhoidopexy [11,12,13,14,16,15,19,25].

Study	Operating Time	Mean Hospital Stay(days)	Return to work (days)
RowSELL et al (2000)	35	1.09	18
Shalaby and Desoky (2001)	9	1.45	8.2
Gravie et al (2005)	21	2.2	
Bharti et al (2012)	29	2.7	8
R Gajbhiye et al (2014)	31.76	1.45	8.3
Present study	32.4	1.02	8

Table shows difference in mean hospital stay as depicted in different studies, overall it is less for stapler haemorrhoidopexy. Mean hospital stay in the present study is comparable with the other studies and is least 1.02 days which is 1.09 days, 1.45 days, 2.3 days, 2.7 days, 2.7 days, 1.45 days respectively.[11,13,16, 22,23].

Return to normal activities

Study	Operating Time	Mean Hospital Stay(days)	Return to work (days)
RowSELL et al (2000)	35	1.09	18
Shalaby and Desoky (2001)	9	1.45	8.2
Bharti et al (2012)	29	2.7	8
R Gajbhiye et al (2014)	31.76	1.45	8.3
Present study	32.4	1.02	8

Table shows that the mean time for return to normal activities and resuming of work was studied. it is maximum 18 days [15] and is 8,8.2,8.3 which is comparable with present study [11,24,25].

Relapse of symptoms- 16 patients (18.18%) reported minor bleeding due to non following of strict dietary advice and to avoid constipation however these pts. are relieved after laxatives and no intervention is required.

Recurrence- Recurrent bleeding and recurrent prolapse are the most common complaints. Recurrent prolapse rate was mentioned in studies at mean 15.9 months to be 11% [22,26]. In our series 1 patient (1.136%) showed mucosal prolapsed with one small 2nd degree haemorrhoid after 4 and half years of surgery due to some personnel and social issues as unable to follow dietary advise, avoidance of constipation and life style changes.

Patient Satisfaction

Various studies has reported patients satisfaction to be 89% [24, 26,]. Despite recurrence the patients were satisfied because of less severity of symptoms than presentation [27] .

In our series, 82 (93.18 %) patients are satisfied, 4 patients (4.54%) are partially satisfied.and 2 patients (2.27%) patients are un-satisfied. The foremost cause of dissatisfaction is more cost of the stapling device.

Conclusion

Stapler haemorrhoidopexy is a good alternative to the open surgery for the treatment of 2nd, 3rd, and 4th degrees haemorrhoids in terms of less pain, early return to normal activities, faster return to work, but high cost of instrument puts the procedure to backfoot. The procedure is easy to master reproducible and gives constant results to surgical skills although associated with some complications which can be avoided by good training of surgeon, cautious patient selection and good counseling of patients, gives feel good results.

Funding: Nil

Conflict of interest: Nil

Permission from IRB: Yes

References

1. Zeitoun JD, de Parades V. Haemorrhoidal disease: from pathophysiology to clinical presentation]. *Presse Med.* 2011 Oct;40(10):920-6. doi: 10.1016/j.lpm.2011.06.017. Epub 2011 Aug 6. French.
2. Owais AE, Sumrien H, Mabey K, McCarthy K, Greenslade GL, Dixon AR. Laparoscopic ventral mesh rectopexy in male patients with internal or external rectal prolapse. *Colorectal Dis.* 2014 Dec;16(12):995-1000. doi: 10.1111/codi.12763.
3. Parks A G : De Haemorrhoids : A study in surgical history. *Guys Hosp Res* 1995; 104: 135-156
4. Loder P B, Kamm M A, Nicholls R J, et al. Haemorrhoids: Pathology, Pathophysiology and Etiology. *Br J Surg.* 1994;81: 946-954.
5. Lorenzo-Rivero S (August 2009). Haemorrhoids: diagnosis and current management. *Am Surg* 75 (8) : 635-42.
6. Milligan ET, Morgan CN, Jones LE et al: Surgical anatomy of the anal canal and operative treatment of haemorrhoids. *Lancet* 1937; 1119-1124.
7. Ferguson JA, Heaton JR: Closed haemorrhoidectomy. *Dis colon rectum* 1959; 2: 1176-79.
8. Thompson WHF. The nature of haemorrhoids. *Br J Surg* 1975; 62: 542-52.
9. The Standard Task Force. American Society of Colon and Rectal Surgeons. Practice parameters for the treatment of haemorrhoids. *Dis Colon rectum* 1993; 36: 1118-20.
10. Longo A. Treatment of haemorrhoid disease by reduction of mucosa and haemorrhoid prolapsed with a circular suturing device. A new procedure. *Proceedings of the sixth World Congress of Endoscopic Surgery, Rome, Italy,3-6 June1998,pp 777-784.*
11. Shalaby R, Desoky A randomized clinical trial of stapled versus Milligan-Morgan Haemorrhoidectomy. *Br. J. Surg*2001, 88; 1049-53.
12. Boccasanta P, CaprettiP G ,Venturi M et al. Randomized controlled trial between stapled circumferential mucosectomy and conventional circular haemorrhoidectomy in advanced haemorrhoids with external mucosal prolapsed. *Am J Surg* 2001; 182: 64-68.
13. Gravie JF, Lehur P A, Hutten N et al. Stapled haemorrhoidopexy versus Miligan-Morgan Haemorrhoidectomy; a prospective randomized, multicenter trial with 2 years prospective follow up. *Ann Surg* 2005; 242: 29-35.

14. Pavlidis T, Papaziogas B, Souparis A et al. Modern stapled Longo procedure vs conventional Milligan-Morgan Haemorrhoidectomy : a randomized controlled trial. *Intl J Colorectal Diseases* 2002; 17: 50-53.
15. Rowsell M, Bello M, Hemingway DM. Circumferential Mucosectomy (staple haemorrhoidectomy) vs conventional haemorrhoidectomy: randomized controlled trial. *Lancet* 2000; 355: 779-81.
16. Racalbuto A, Aliotta I , Corsaro G et al. Haemorrhoidal stapler prolapsectomy vs Milligan-Morgan Haemorrhoidectomy . a long term randomized trial. *Intl J Colorectal Disease* 2004; 19: 239-44.
17. Chung CC, Cheung HYS, Chan ESW et al. Stapled haemorrhoidopexy vs Harmonic scalpel haemorrhoidectomy. A randomized trial. *Dis Colon Rectum* 2005; 48: 1213-1219.
18. Ho Yh, Cheong WK, Tsang C, et al. Stapled haemorrhoidectomy – cost effectiveness. Randomized controlled trial including incontinence scoring, anaorectalmanometry and endoanal ultrasound assessment upto three months. *Dis Colon Rectum* 2000; 43: 1666-75.
19. Bikhchandani J, Agarwal PN, Hant R, et al. Randomized controlled trial to compare the early and midterm results of stapled vs open haemorrhoidectomy . *Am J urg* 2005; 189: 56-60.
20. Basdanis G, Papadopoulus VN, Michaelopoulus A, et al. Randomized clinical trial of stapled haemorrhoidectomy vs open with Ligasure for prolapsed piles. *Surg Endosc* 2005; 19: 235-39.
21. Correa- Rovelo JM, Tellez O, Obregon L, et al. Stapled rectal mucosectomy vs Closed haemorrhoidectomy: a randomized clinical trial. *Dis Colon Rectum* 2002 ; 45: 1367-74.
22. W. J. Shao, G.C. H. Li, Z.H. K. Zhang, et al. Systematic review and metaanalysis of randomized controlled trials comparing stapled haemorrhoidopexy with conventional haemorrhoidectomy. *Br J Surg* 2008; 95: 147-60.
23. Gouda M ,Ellaben, Stapled haemorrhoidectomy vs Traditional haemorrhoidectomy for the treatment of haemorrhoids. *World J Surg* vol.2 issue 2010.
24. Bharati Hiremath , Gupta S. Stapled haemorrhoidopexy for haemorrhoids. A review of our early experience. *Ind. J. Surg* 2012; 74(2): 163-5
25. R. Gajbhiye, B.Tirupade, H. Banarkaretal. Prospective study of stapler haemorrhoidectomy. *JEMDS* 2014; vol.3: issue73: p. 15356-363.
26. Ammaturo C, Tufano A. Stapled haemorrhoidopexy vs milligan morgan haemorrhoidectomy for grade 3 haemorrhoids: a randomized clinical trial *G Chir*; 2012; 33(10): 346-351.
27. Wolthius AM, Pennincks F, Cornille JB, et al. Recurrent symptoms after stapled haemorrhoidopexy and the impact on patients satisfaction after a minimal of two years follow up. *Acta Chir Belg*; 2012; 112(6): 419-22.

.....
How to cite this article?

Rakhonde AK, Chanchalani R. Stapler Haemorrhoidopexy - our experience in a tertiary care hospital of central India. *Int J Med Res Rev* 2015;3(6):635-640. doi: 10.17511/ijmrr.2015.i6.123.
.....