



A STUDY TO EVALUATE STAPLED HAEMORRHOIDECTOMY IN PATIENTS OF GRADE III AND GRADE IV HAEMORRHOIDS

General Surgery

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ABSTRACT

INTRODUCTION: Haemorrhoids are considered one of the most common anorectal diseases with a prevalence of 4.4% up to 36.4% of the general population, and a peak incidence between 45 and 65 years. Haemorrhoidal disease presents with a prolapsed lump, painless bleeding, discomfort, discharge, hygiene problems, soiling, and pruritus etc. We studied a method of treatment named stapled haemorrhoidectomy to evaluate this among grade 3 & grade 4 patients of Haemorrhoids about time of operating, post operative complications & early discharge

METHODS: Prospective Study was done among patients of Grade 3 & 4 of Haemorrhoids. The data collection included into parts. Demographic variables, Clinical Variables, Predesigned Standardized Questionnaire & Standardized rating scale to assess & evaluate the study subjects. Subjects who fulfilled the inclusion criteria were chosen as samples by using non-probability purposive sampling technique. The study was conducted at various parts of a tertiary medical care centre of Raipur CG. The results of Stapled Haemorrhoidectomy (SH) were evaluated by a questionnaire focusing on the relief of symptoms, severity of post operative pain, and complications of SH.

RESULTS: The data were analyzed and interpreted based on the objectives using descriptive and inferential statistics. Thirty two patients (23 males and 9 females); with a mean age of 37.6 years were recruited in this study. 86% patients had grade III and 14% presented with grade IV hemorrhoids. Perianal prolapse was the most frequent presentation reported in 76%. Mean operating time was 20.1 minutes whereas mean hospital stay was 2 days. Post-operative pain was tolerable in 93% cases whereas 7% experienced mild pain requiring additional analgesia. Urinary retention & urgency was the most common complication found in 16% patients. All patients were cured.

CONCLUSION: Stapled Haemorrhoidectomy is a safe, rapid, and convenient surgical remedy for grade III and grade IV hemorrhoids with low rate of complications, minimal postoperative pain, and early discharge from the hospital. There is less lateral thermal damage, with no passage of electricity to or through the patient, resulting in greater safety for the patient.

KEYWORDS

Haemorrhoids, Stapled Haemorrhoidectomy, Grade III & IV Haemorrhoids

INTRODUCTION

Hemorrhoids are one of the most common anorectal disorders with a reported prevalence of 4.4% up to 36.4% of general population¹. The term "hemorrhoids" refers to anal cushions that swell, bleed, thrombose, and/or prolapse, hence causing clinical symptoms.²

Hemorrhoids can be classified according to their location and degree of prolapse. Internal hemorrhoids are located above the dentate line and covered by columnar epithelium. Internal hemorrhoids are further graded according to Goligher's classification which depends on the degree of prolapse into: (1) Grade I hemorrhoids: Anal cushions bleed without prolapse; (2) Grade II hemorrhoids: Anal cushions prolapse on straining but reduce spontaneously; (3) Grade III hemorrhoids: Anal cushions prolapse on straining or exertion and require manual reduction; and (4) Grade IV hemorrhoids: The prolapse is irreducible and remains out all the time.²

The peak prevalence occurs between 45 and 65 years of age^{3,4}. Approximately one-third of patients affected by haemorrhoids seek medical advice^{5,6}. Different studies showed that about 5%-10% of patients suffering from hemorrhoids do not respond to conservative treatments, so surgical procedures become the treatment of choice in such cases⁷. Surgery is indicated in the treatment of combined internal and external hemorrhoids or Grade III and Grade IV hemorrhoids, especially in patients who are unresponsive to other methods of treatment or those with extensive disease⁸. Only surgical remedies allow complete cure and are recommended in the treatment of Grade III and Grade IV symptomatic haemorrhoidal disease⁹. Around 10% to 12% of patients with hemorrhoids eventually require surgical treatment¹⁰. Apart from Conventional haemorrhoidectomy there are other useful procedures also. Excisional hemorrhoidectomy is considered to be the most effective treatment modality for hemorrhoids with the lowest recurrence rate as compared to other modalities; however, the main drawbacks are the marked post-operative pain and the highest complication rate.¹¹ Conventional haemorrhoidectomy (CH) provides permanent symptomatic relief for most patients, and effectively treats any external component of the hemorrhoids. However, the wounds created by the surgery are usually associated with considerable post-operative pain which necessitates a prolonged recovery period. This can put a stress on a general

practitioner's resources, may alienate the patient and delays the patient's return to a full, normal lifestyle and the workplace. Because of this, surgeons will generally reserve formal excision for the most severe cases of prolapse, or for patients who have failed to respond to conventional treatments. In 1998, Longo revolutionized the surgical approach to hemorrhoids by introducing the technique of SH¹². This technique is considered to be more expensive than classic hemorrhoidectomy, but it is less painful and allows a faster recovery¹³. The purpose of this study was to evaluate the convenience or difficulty in using SH, and to determine the efficacy, safety and postoperative course following this technique.

METHODOLOGY

After local ethical approval. Patients coming to outpatient department or admitted in the hospital satisfying the criteria were included in the study. A total of 32 middle aged subjects who fulfilled the inclusion criteria were chosen as samples by using non-probability purposive sampling technique. The data was collected into parts. Demographic variables, Clinical Variables, Predesigned Standardized Questionnaire & Standardized rating scale to assess & evaluate the study subjects. The Statistical analysis was conducted using Statistical Package for Social Sciences-20. Mean, percentage, and standard deviation were used to explain the demographic variables, Clinical variables and Chi-square test was used. The samples was chosen through non probability purposive sampling technique. A total number of 32 clients who met the inclusion criteria were selected. The investigator explained the purpose of conducting the study and reassured the client that the collection will be kept confidential. Consent was obtained from the subjects after explaining all the options & procedure. Since SH does not remove the source of infection, it is contraindicated in presence of anal abscess or gangrene. So subjects having any abscess, gangrene, fissure, fistula & anal stenosis were not taken into study. The study was conducted at various parts of a tertiary medical care centre of Raipur CG including Rural & urban medical & health centres collaborated with it.

A detailed informed consent was taken from all the patients. A routine fleet enema (sodium phosphate enema) was administered at the night before operation and single dose prophylactic injections of Ceftriaxone 1g intravenously and metronidazole 500 mg

intravenously was administered at the time of induction. All the operations were performed by two senior consultant surgeons and the follow-up was also conducted by the same team. The stapled procedure was performed in lithotomy position under general anesthesia, according to the technique described by Longo¹², with slight modifications¹⁴. Using the purse string anoscope in the Ethicon Endosurgery stapler set, a circumferential purse string suture with 2-0 polypropylene (on a 30-mm curved, round-bodied needle) was taken starting at 3 o'clock, at least 3 cm proximal to the dentate line. A second simple stitch with the same suture material was placed at 9 o'clock at the same level as the purse string. This ensured that a symmetrical ring of mucosa and submucosa was excised when the staple gun was fired. The hemorrhoidal circular stapler was opened to its maximum position and positioned proximal to the purse string. The purse string was then tightened. The stapler was then fired and held in the same position for 20 seconds to ensure hemostasis. The stapled line was inspected for any bleeding and, if present, hemostatic sutures were taken with 4-0 Vicryl. The doughnut of the tissue was sent for histological examination. The external hemorrhoidal components of hemorrhoids were not dealt with directly. The criteria of passage of first motion after surgery were considered necessary for discharge.

Patients were prescribed oral analgesia and stool softeners for 2 weeks. Outpatient clinic follow up were timetabled for all patients at 2 weeks and 10 weeks, and a gentle digital rectal examination was performed at both visits. An easy-to-follow standardized questionnaire was administered during their second visit (8 to 10 weeks) after taking verbal consent from the participants. The results of Stapled Haemorrhoidectomy (SH) were evaluated by a questionnaire focusing on the relief of symptoms, severity of post operative pain, and complications of SH.

RESULTS

32 subjects were assessed & evaluated during the period of March 2018 to June 2019. Thirty two patients were included in the study (23 males and 9 females); with a mean age of 37.6 years. 86% patients had grade III and 14% presented with grade IV hemorrhoids. Perianal prolapse was the most frequent presentation reported in 76%.

The procedures were performed as elective cases after admissions in the surgical wards. Intraoperative bleeding at the stapled line was identified in 2 patients which was successfully controlled by hemostatic suture.

Mean operating time was 20.1 minutes whereas mean hospital stay was 2 days. Post-operative pain was tolerable in 93% cases whereas 7% experienced mild pain requiring additional analgesia. Urinary retention & urgency was the most common complication found in 16% patients. In 92% of the subjects all the pre operative symptoms had resolved completely

10% cases complained of perianal itching after the procedure which subsided during the follow up.

All patients were cured.

DISCUSSION

Although hemorrhoidal cushions are normal anatomic structures, they are infrequently referred to until issues arise, and then the term hemorrhoid is meant as a pathologic process. The sliding anal canal lining theory, stated that hemorrhoidal disease develops upon disintegration of the supporting tissues of anal cushions leading to their downward displacement. A number of possible contributing factors leading to migration of the hemorrhoidal cushions have been suggested, including lack of dietary fiber, prolonged straining, spending excess time on the commode, constipation, diarrhea, pregnancy, sedentary lifestyle, and a family history. Increased microvascular density in hemorrhoidal tissue, neovascularization has been suggested as an important phenomenon in the pathogenesis of haemorrhoidal disease^{15,16}.

In 1998, Longo¹² proposed the use of a specially designed circular stapler for treatment of grade III and grade IV hemorrhoids. Stapled hemorrhoidopexy (SH) (also named procedure for prolapse and hemorrhoids) aims at reducing the hemorrhoidal prolapse by excising a complete ring of mucosa above the dentate line and fixing the hemorrhoids to the distal rectal muscular wall leading to repositioning the hemorrhoids into the anal canal. This technique also involves

transecting the superior hemorrhoidal arteries, which reduces the venous engorgement by transection of the feeding arteries resulting in reduction of the size of the hemorrhoids. The main advantages of this procedure is the absence of perianal wounds and the reduction of pain as compared to CH, since the stapled mucosa anastomosis in the rectum is performed at least 3 cm above the dentate line, where sensitive receptors are few.^{17,18}

Jinn et al¹⁹ in a systematic review and meta-analysis, concluded that advantages of SH over CH are a shorter operation time, less postoperative pain and urinary retention, and a faster return to normal physical activity.

SH does not excise hemorrhoidal tissue at the anus, but consists of an excision of a circumferential column of mucosa and submucosa just above the hemorrhoids, followed by a stapling of the defect. The prolapsed hemorrhoidal tissue is drawn back into a physiologic position within the anal canal. SH does not involve dissection and excision of the perianal skin, and this significantly contributes to reduced pain scores. Carrying out a mucocutaneous anastomosis, in a region with few sensory receptors and mucous somatic fibers, sets the theoretic premises for surgery involving a low level of postoperative pain. However, Mehigan et al.²⁰, Hetzer et al.²¹, and Ho et al.²², did not find significant difference in the hospital stay between the stapled and open hemorrhoidectomy groups.

Although the cost of the stapler device is still relatively high, the length of hospital stay and the period of the patient's incapacity for work are certainly shortened. The absence of local care and less postoperative pain are clear advantages to the patient. SH results in significantly lesser immediate postoperative pain than conventional excision techniques (by 2 to 3 levels on Visual Analogue Scale) and offers more comfort to the patient^{23,24}. Similarly, a high level of patients' satisfaction was achieved in the current study in terms of low incidence of pain and complications. The technique of SH is considered easy to learn and quick to perform by the surgeons

CONCLUSION

Stapled Haemorrhoidectomy is a safe, rapid, and convenient surgical remedy for grade III and grade IV hemorrhoids with low rate of complications, minimal postoperative pain, and early discharge from the hospital. There is less lateral thermal damage, with no passage of electricity to or through the patient, resulting in greater safety for the patient.

FUNDING: No funding sources

CONFLICT OF INTEREST: None declared

ETHICAL APPROVAL: The study was duly done after approval & detailed Informed Consent by the patients

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