

Comparative study of open versus stapled haemorrhoidectomy

1. **Dr. Pramod Singh**, MBBS, MS, FMAS, FAIS, Associate Professor, Department of General Surgery
 2. **Dr. Tushar Kanti Chatterjee**, MBBS, MS, Associate Professor, Department of General Surgery
 3. **Dr. Subhakanta Mohapatra**, MBBS, MS, MCh, Assistant Professor, Department of General Surgery
- Affiliation:** Gouri Devi Institute of Medical Sciences and Hospital, Rajbandh, Durgapur, West Bengal, India

Abstract

Background

Stapled hemorrhoidectomy has a number of advantages over excision hemorrhoidectomy, including less postoperative pain, a shorter stay in the hospital, and a faster recovery. Furthermore, stapled hemorrhoidectomy is linked to a reduced rate of hemorrhoidal recurrence during long-term follow-up.

Methods:

The study included 100 patients, 50 of whom received open and 50 of whom underwent stapled haemorrhoidectomy. Averages, standard deviation, unpaired student t test, Mann Whitney U test (for non-parametric skewed distribution), and Fischer exact test were used to assess significance levels. If the p -value < 0.01 or 0.001 , the difference is extremely significant. The difference is significant if the p -value < 0.05 .

Results

In terms of postoperative pain, operative time, and return to normal activities, the stapled method for haemorrhoids is preferable than the Milligan Morgan haemorrhoidectomy. It's simple and obvious to learn. Early functional and symptomatic results have been positive, and they appear to be comparable to or better than those obtained using conventional approaches. However, long-term assessment of these parameters is required.

Conclusion

I conclude that both treatments were effective for hemorrhoidectomy treatment, however Stapler hemorrhoidectomy had advantages in terms of shorter operative periods, less intra- and post-surgical bleeding, and a lower incidence of various post-operative sequelae. Patients with haemorrhoids frequently avoid surgery for fear of enduring excruciating pain after a haemorrhoidectomy.

Key words: Comparative study, Open and stapled haemorrhoidectomy, Milligan Morgan haemorrhoidectomy, Haemorrhoids

Introduction

Haemorrhoids are one of the most common afflictions of mankind from instances immemorial. Anal cushions that expand, bleed, thrombose, and prolapse and generate clinical symptoms are referred to as haemorrhoids[1]. It is mainly of two types; Internal haemorrhoids which originate from the sub-epithelial plexus of the anal canal above the dentate line, whereas external haemorrhoids are aggregations of congested exterior perianal vascular plexus covered by perianal skin. Further, internal haemorrhoids are divided into four degrees based on the degree of prolapse, albeit this may not always reflect the intensity of a patient's symptoms[2]. The assumption of an erect posture become a prodigious

accomplishment and guy can pay for his vanity through the ache and humility that go together with haemorrhoids. Morgagni attributed the upright posture of guy because the causative thing of haemorrhoids. The phrases 'haemorrhoids' and 'piles' are used interchangeably, however etymologically the phrases have totally exceptional meanings[3]. Ardene J., may be aptly used for all styles of haemorrhoids or piles, for actually each such circumstance does produce a swelling of a few kinds, despite the fact that it can now no longer display externally. Vascular cushions in the anal canal do now no longer range anatomically in regular people from the ones in symptomatic sufferers. It is consequently possibly illogical to speak approximately the prevalence of vascular cushions when you consider that they're ubiquitous. Both sexes, all races and every age have anal cushions. If the cushions are omnipresent then it's far best the lifestyles of signs that deserves type as a disease. Hundred percentage of populace has haemorrhoids, however, best 50% are symptomatic[4].

Conservative therapy, which includes dietary and lifestyle adjustments as well as the use of various pharmacological agents such as creams, office-based non-operative procedures, and so on, can be used to treat symptomatic haemorrhoids. Surgery is the preferred treatment for grade III and IV haemorrhoids, especially in patients who have failed to react to previous treatments[5]. However, for first and second-degree haemorrhoids, surgery is not a viable option and must be avoided. The Milligan Morgan haemorrhoidectomy, on the other hand, is the most widely used surgical technique for the treatment of these two haemorrhoids types, and it is considered the current Gold standard and has stood the test of time due to its minimal postoperative complications, cost effectiveness, and better long-term effects[6]. About 40% of the sufferers tormented by haemorrhoids require surgical procedure[7]. Conventional haemorrhoidectomy is a generally accomplished operation for haemorrhoids, it has exact effects however is a painful process ensuing in a medical institution live for variable days and day off paintings for 2 to 6 weeks. The affected person however additionally faces the headaches of haemorrhage immediate, reactionary or secondary, urinary retention, and overdue headaches like stenosis or incontinence.

While on the lookout for a further and faster surgical method to deal with this not unusual place circumstance of haemorrhoids, stapler has been added for haemorrhoidectomy. Stapled haemorrhoidectomy has arisen as a brand new and promising process inflicting minimum submit-operative ache, early discharge and short go back to paintings. This technique has been followed and adapted through surgeons throughout the world. However, it's far extra high-priced than traditional open surgical procedure due to the value of the instrumentation involved.

Materials and methods

The current study was accompanied at the Department of General Surgery Gouri Devi Institute of Medical Sciences and Hospital Durgapur from Sep 2020 to Aug 2021, on patients admitted to GIMSH, Durgapur. The current study has been conducted on all 100 cases among them 50 undergo open and 50 underwent stapled haemorrhoidectomy. The patients underwent one of the surgical procedures after taking informed consent. The advantages and drawbacks of each the approaches have been defined to the patients well. Patients of large grade II hemorrhoids, grade III hemorrhoids, grade IV hemorrhoids were included in the study. However, patients with grade I hemorrhoids, with any associated anal pathology like fistula, fissure etc. were excluded. Each case become studied on a specific plan as in proforma i.e. particulars of the subject, which included their name, age, gender and occupation. Besides, detailed history of the nature and duration of presenting complaints, details of the previous treatment/s if any, family history, personal history and physical examination etc. To verify the

overall circumstance of the affected person Hb, TLC, DLC, urine recurring, X-ray chest, blood urea, blood sugar and ECG become performed. Following evaluation, the instances have been allotted to one of the treatment groups. Pre-operative and not using a different co-morbid situation have been admitted immediately at the day earlier than surgical procedure.

Open haemorrhoidectomy: the pores and skin protected issue of every of the primary piles is seized with artery forceps and retracted outwards. This has the impact of inflicting the decrease poles of the mucosal-protected issue of the haemorrhoid to protrude to a various volume relying on the scale of haemorrhoidal tissues. The pink anal mucosal issue of every pile is now grasped in every other artery forceps and drawn downwards and outwards. This manoeuvre prolapses the pile properly out of the anus and brings into view the crimson rectal mucosa at its higher pole. The traction of the 3 haemorrhoids is maintained till crimson rectal mucosa suggests now no longer best on the higher a part of the piles however additionally at the mucosal folds strolling among the piles. This shows that the piles had been drawn right all the way down to their most volume in order that the ligatures may be carried out at their higher poles in preference to with inside the middle. The operator then makes a V formed incision with inside the anal and perianal pores and skin. The limbs of the V go the mucocutaneous junction however do now no longer increase into the mucosa.

Stapled haemorrhoidectomy: the anal verge is held through 3 atraumatic forceps on the 3 factors wherein the prolapse is smaller and the anoderm is barely everted. Such a manoeuvre enables the creation of the round anal dilator (CAD 33) after lubrication with jelly. The creation of the CAD 33 reasons the discount of the prolapse of the anoderm and components of the anal mucous membrane. After disposing of the obturator, the prolapsed mucous membrane falls into the lumen of the CAD33. As it's far transparent, the CAD33 permits visualization of the dentate line. The CAD 33 have to be affixed to the perineal pores and skin via the 4 home windows of the CAD 33 with silk or linen stitches on a reducing needle. All last prolapsing tissues have to be driven lower back with atraumatic forceps via the home windows of the CAD33. The Purse string suture anoscope (PSA33) is now added via the CAD33. The suture is to be taken at the least four cm above the dentate line, the space to be accelerated in percentage to the diploma of the prolapse. The handbag string is initiated at three'O clock function.

Statistical analysis:

Significance levels were determined by using averages, standard deviation, unpaired student t test, Mann Whitney U test (for non- parametric skewed distribution) and Fischer exact test. p value < 0.01 or < 0.001, was considered as the difference is highly significant.

Results

A total of 100 patients were included in the study. Group 'A' include those who underwent open haemorrhoidectomy (n=50). Group 'B' include those who underwent stapled haemorrhoidectomy (n=50). The observations were made as patient's characteristics - age and sex, operative time, Intra operative blood loss, post-operative pain scores (at 12 hours, 24 hours, 3 days, 7 days and 15 days), duration of hospital stay, number of days to return to work and complications.

Table1: Comparison of age (years) among study group.

| Age(years) | N | Mean | Std.de viatio n | Medi an | IQR | Min | Max | Unpai red T- test | p-value |
|---------------------------|----|-------|-----------------------|------------|-------|-----|-----|-------------------------------|---------|
| Open haemorrhoidectomy | 50 | 49.28 | 14.824 | 48.00 | 26.00 | 26 | 75 | 0.0764 | 0.939 |
| Stapled haemorrhoidectomy | 50 | 49.60 | 14.887 | 49.00 | 28.00 | 25 | 75 | Difference is not significant | |

Table 2: Distribution of study group as per sex.

| Type of operation | | Sex | | Total |
|---------------------------|------------|------|--------|-------|
| | | Male | Female | |
| Open haemorrhoidectomy | Percentage | 75% | 25% | 100% |
| Stapled haemorrhoidectomy | | 76% | 24% | 100% |
| Total | | 78% | 22% | 100% |

Table 3: Distribution of most common complaint.

| Most common complaint | Frequency | Percent |
|-----------------------|-----------|---------|
| Bleeding | 75 | 75% |
| <u>Prolapse</u> | 25 | 25% |
| Total | 100 | 100% |

Table 4: Distribution of grade of haemorrhoids among study group.

| Type of operation | | Grade | | Total |
|---------------------------|------------|-------|-----|-------|
| | | II | III | |
| Open haemorrhoidectomy | Percentage | 18% | 82% | 100% |
| Stapled haemorrhoidectomy | | 28% | 72% | 100% |
| Total | | 23% | 77% | 100% |

Table 5: Comparison of blood loss (ml), OT Time (min) and total hospital day (days) during procedure among study group.

| | Type of operation | N | Mean | Std. deviation | Median | IQ R | Mann-Whitney U | p-value |
|-----------------------------|---------------------------|----|-------|----------------|--------|------|----------------|----------|
| Blood loss (ml) | Open haemorrhoidectomy | 50 | 75.78 | 10.95 | 72 | 18 | 10.40 | 2.50E-08 |
| | Stapled haemorrhoidectomy | 50 | 47.07 | 08.72 | 48 | 22 | | |
| OT Time (min) | Open haemorrhoidectomy | 50 | 48.90 | 6.461 | 55 | 12 | 85.50 | 7.74E-07 |
| | Stapled haemorrhoidectomy | 50 | 37.60 | 9.081 | 30 | 13 | | |
| Total hospital stays (days) | Open haemorrhoidectomy | 50 | 2.40 | 0.816 | 2.00 | 1.00 | 88.50 | 3.60E-06 |
| | Stapled haemorrhoidectomy | 50 | 1.28 | 0.542 | 1.00 | 0.50 | | |
| Back to workdays (days) | Open haemorrhoidectomy | 50 | 9.20 | 1.291 | 8.00 | 2.00 | 6.00 | 1.50E-08 |
| | Stapled haemorrhoidectomy | 50 | 3.16 | 1.214 | 3.00 | 2.00 | | |

Discussion

In comparison to the open hemorrhoidectomy (MM) procedure, which is slightly more invasive and painful in the immediate postoperative period than stapled hemorrhoidopexy

(SH) procedure invented by Dr Antonio Longo, Stapled hemorrhoidopexy (SH) procedure is a novel technique and a significant modification in the treatment of haemorrhoids[8]. One of the most prevalent benign anorectal surgical disorders is haemorrhoids. According to Goligher et al, around 40% of haemorrhoid sufferers will require haemorrhoidectomy at some point[9]. Rubber band ligation, injectable sclerotherapy, infrared photocoagulation, and cryotherapy have all been demonstrated to be less effective than surgery in the treatment of third and fourth degree haemorrhoids[10]. The criticisms levelled towards haemorrhoidectomy centre on postoperative pain, the need for the patient to be admitted to the hospital for the operation, and the need for the patient to be off work for at least 2 to 3 weeks with a perineal wound that requires dressing[11].The introduction of a stapler for haemorrhoids has eliminated most of the issues listed above. It has also made haemorrhoid surgery more patient-friendly. The purpose of this study is to compare open (Milligan Morgan) and stapled haemorrhoidectomy in order to see if the stapled approach has any significant advantages over the open procedure.

Patients were categorized into two groups in this study: those who had Milligan Morgan haemorrhoidectomy and stapled haemorrhoidectomy. The study included 50 participants, excluding those with grade I haemorrhoids or any concomitant anal pathology such as anal fissure. The patients were split evenly between the two groups. In terms of age, the two groups of patients were matched. Group A had a mean age of 49.28 ± 14.82 years, while group B had a mean age of 49.60 ± 14.88 years (table 1). The mean age difference between the two groups was not statistically significant. The mean age in the study by Hetzer et al was 44.8 years in the open group and 50.4 years in the stapled group, with no statistical difference[12]. According to Ganio et al., the mean age in the open and stapled groups was 47 and 48 years, respectively[13]. Ho and colleagues discovered that open group patients were 46.3 years old, while stapled haemorrhoidectomy patients were 44 years old. Haemorrhoids were found to be more prevalent in males than in females (table 2). The patients' main complaint was anal haemorrhage. Both groups of participants complained of rectum swelling, pain during defecation, and constipation (table 3). In his study, Hetzer et al., found that the male:female ratio was 14:6 in the open group and 15:5 in the stapled group[12]. According to several research, third degree haemorrhoids are the most prevalent haemorrhoids that require surgical treatment[6][14]. In this investigation, grade III haemorrhoids were seen in 39 of 50 individuals (78%) (table 4). In the study by Shalaby et al., however, grade IV haemorrhoids were more common. Patients' most prevalent complaint was bleeding (78%). 89% of the individuals in Ortiz's study presented with bleeding[15]. However, 65% of patients complained of bleeding, according to Shalaby[15]. 80% of patients had bleeding, according to Ho et al., After a typical pre-operative preparation, all the patients were operated on under spinal anaesthetic. Gaino et al found that 46% of patients were operated on under general anaesthesia, 34% under spinal anaesthesia, and 20% under pudendal anaesthesia in their study[13]. All of the patients were operated on under general anaesthetic by Mehigan et al., and Pavlidis et al., reported solely epidural anaesthesia for both types of procedures[16] [17]. Hetzer et al., operated on 55% of patients under general anaesthetic and 45% under spinal anaesthesia in their study[12]. The operative times for the two procedures were significantly different. The average operative time in group 'A' was 49.806.37 minutes, compared to 36.608.98 minutes in group 'B' (Table 5). A lot of research has backed up this claim of shorter operative time (statistically significant). However, Ho et al., discovered that the traditional haemorrhoidectomy took less time than the stapled approach[18]. This is likely since Ho et al conducted their research between 1999 and 2000, when stapled haemorrhoidectomy was still in its early phases[18]. Patients (PAC fit) were admitted either

the morning of surgery or the night before surgery in this study. For admittance, Mehigan et al., used comparable procedures.

There was a substantial difference between the two groups when it came to returning to work/routine activities. In group A, the range was 7 to 11 days, with an average of 8.20 ± 1.29 days. Group B, on the other hand, had a range of 2 to 7 days, with a mean of 3.16 ± 1.21 days (table 5). In most studies, people who had stapled haemorrhoidectomy returned to work or normal activities far sooner than those who had an open haemorrhoidectomy. Ortiz et al, on the other hand, found no statistical difference in the time it took to return to work[19]. In assessing return to work, he stated that social and cultural elements must be considered.

Conclusion

Based on above finding, I can conclude that both procedures were efficient for hemorrhoidectomy therapy, however Stapler hemorrhoidectomy had advantages in terms of shorter operative times, less intra- and post-surgical bleeding, and a decreased incidence of various post-operative sequelae. Patients with haemorrhoids often avoid surgery because they are afraid of experiencing extreme discomfort following a haemorrhoidectomy. Stapled haemorrhoidectomy is well-liked and well-received by patients. However, longer-term studies are needed on larger cohort with controls to demonstrate the aetiology and pathophysiology with the benefits of stapled haemorrhoidectomy and the absence of long-term problems.

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