

## Original Research Article

# Which is better: stapler haemorrhoidopexy vs traditional excisional surgery?

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### ABSTRACT

**Background:** Haemorrhoids are tortuous dilated veins within the submucosa of anal canal. They are external, internal or internoexternal. External haemorrhoids cause pain. Internal haemorrhoids are characterised by painless bleeding or prolapse. Various treatment options are available- dietary modification, band ligation, sclerosant therapy, cryosurgery, traditional excisional surgery (Milligan/Ferguson), stapler haemorrhoidopexy, Doppler guided haemorrhoidal artery ligation (DGHAL), application of harmonic scalpel and ligasure.

**Methods:** Adult patients (>18 yrs) with grade II, III & grade IV haemorrhoids are randomly allotted in equal numbers to receive either stapler haemorrhoidopexy or traditional excisional surgery from July 2017 to December 2018. Post-operative complications, pain (using visual analogue scale), recurrence rate and the need for further surgery with these procedures were analysed in this 1 and half year study period.

**Results:** Patients who underwent stapler haemorrhoidopexy had better temporary quality of life, but patients who underwent traditional excisional surgery had lesser recurrence.

**Conclusions:** Overall, traditional excisional surgery should be the choice when compared to stapler haemorrhoidopexy.

**Keywords:** Stapler, Hemmoroidectomy, Hemmoroidopexy

### INTRODUCTION

Haemorrhoids have been afflicting mankind since times immemorial.<sup>1</sup> Haemorrhoids are normal, vascular tissue within the submucosa located in the anal canal. 40% of population suffer from symptoms of haemorrhoids during their life time. Because of erect posture man got in evolution man is suffering from haemorrhoids and its complications like pain and bleeding.<sup>2</sup>

Two chief symptoms are bleeding and protrusion. Since Babylonian era various methods of treatment were used. Hippocrates practiced cautery as a method of treatment which is extremely painful in the pre-anaesthetic era.<sup>3</sup>

Haemorrhoids need surgery in 40 percent of patients who are suffering from symptoms of haemorrhoids and its complications like bleeding and pain.<sup>4</sup>

The initial management consists of dietary like fibre, more fibre, manipulation, bulk forming laxatives. Persistent symptoms are an indication for investigation and treatment, which involves rubber band ligation for lower grade haemorrhoids and for patients not fit for prolonged anaesthesia because of compromised cardiac function and old age, surgery for high grade haemorrhoids. In patients undergoing one or more bandings, relief of symptoms was noted in 80%, with failure predicted in patients who required four or more

bandings.<sup>5</sup> The widely adopted Goligher system for grading haemorrhoids was used in this trial.<sup>6</sup>

Haemorrhoid surgery with dissection is practiced all over the world with best results.<sup>7</sup> Pain is more in this method. Hospital stay is about 10 days. Rest from work is about 6 weeks. Mild bleeding may be present for six weeks. Urinary retention, anal stenosis and dysurea may occur in some cases.

Stapler surgery for haemorrhoids with bleeding and prolapsed haemorrhoids is a new method. Pain is less in this method. Hospital stay is also much less. The technique of stapling for haemorrhoids was initially presented by Peck from San Jose, CA approximately 14 years ago by suture application first and later applying staples.<sup>8</sup> However this technique was standardized by Longo at the University of Palermo.<sup>8</sup>

There are several other newer treatments, including DGHAL, application of ultrasonic (Harmonic scalpel) or electrical energy devices (Ligasure) for operative treatment of haemorrhoids. Various studies have investigated their efficacy and have demonstrated decreased postoperative pain and analgesic use in these groups compared with traditional techniques, with similar short-term success rates.<sup>9,10</sup>

So this study is designed to compare the efficacy of stapler hemorrhoidectomy over traditional hemorrhoidectomy. And to evaluate the postoperative pain and recurrence among the study groups.

## METHODS

Adult patients (>18 yrs) with grade II, III & grade IV haemorrhoids were randomly allotted in equal numbers to receive either stapled haemorrhoidectomy or traditional excisional surgery. Pain (using visual analogue scale), recurrence rate, post-operative complications of the either procedure, need for further surgery were analysed in period from July 2017 to December 2018. This constituted around 104 patients.

### Inclusion and exclusion criteria

Patients who followed up for 1 and half years were only included in the study and patients who have undergone surgery priorly for haemorrhoids were excluded.

Patients with underlying carcinoma of rectum were excluded. Patients with co-existing anal conditions like fistula-in-ano, perianal abscess, fissure in ano have been excluded.

## RESULTS

This study has been conducted in MNR Medical College and Hospital, Sangareddy from July 2017 to December 2018, for a period of one and half years. 109 patients

were included initially in this study. After randomisation in to either group in equal numbers, 1 has been excluded from traditional group and 4 have been excluded from stapler group.

**Table 1: Distribution of patients category-wise.**

Category	No. of patients
Traditional	54
Stapler	50
<b>Total</b>	<b>104</b>

Average age in traditional method is 45.1. Average in staple surgery is 46.

**Table 2: Age-wise distribution of patients.**

Age group (yrs)	Traditional	Stapler
20-29	5	4
30-39	14	12
40-49	15	16
50-59	13	12
>60	7	6
<b>Total</b>	<b>54</b>	<b>50</b>

Out of 54 patients who underwent traditional excisional surgery, 30 were males, 24 were females. Among 50 patients who underwent stapler surgery, 28 were males, 22 were females.

**Table 3: Gender wise distribution of patients.**

Gender	Category	
	Traditional	Stapler
<b>Males</b>	30	28
<b>Females</b>	24	22

Among the 54 patients who underwent traditional excisional surgery, 18 were having Grade II haemorrhoids, 21 were having Grade III haemorrhoids, 15 were having Grade IV haemorrhoids. Out of 50 patients who underwent stapler haemorrhoidectomy, 16 were having Grade II haemorrhoids, 22 were having Grade III haemorrhoids, 12 were having Grade IV haemorrhoids. The following is the table showing distribution of patients in each grade, category wise.

**Table 4: Distribution of patients with different grades of haemorrhoids in each surgery.**

Grading	Traditional	Stapler
<b>Grade II</b>	18	16
<b>Grade III</b>	21	22
<b>Grade IV</b>	15	12

Out of 54 patients who underwent traditional excisional surgery; 2 developed infection, 4 had urinary retention, 5 had pain at surgical site, 1 had bleeding per rectum, 1 had

stenosis, 2 had constipation within the first 3 weeks following surgery. Out of 50 patients who underwent stapler surgery; 1 had urinary retention, 2 had pain at surgical site, 6 had bleeding per rectum, 1 had stenosis and 1 had anal fissure during the first 3 weeks post-surgery.

**Table 5: Post-operative complications.**

Complication	Traditional	Stapler
Infection	2	0
Urine retention	4	1
Pain	5	2
Bleeding	1	6
Stenosis	1	1
Constipation	2	0
Anal fissure	0	1

These complications reduced after 3 weeks of surgery in both groups. On an average, pain experienced by patients in traditional group is 2.9 (VAS) and pain experienced by patients in stapler group is 2.5 (VAS) at the end of 3 weeks after surgery. Analgesia dose, on an average, taken by patients in stapler group is lesser than analgesia dose taken in traditional group.

At the end of 1 year, 16 patients in stapler group experienced recurrence and 7 patients in traditional group experienced recurrence. By the end of one and half year of study, 19 patients in stapler group experienced recurrence and 9 patients in traditional group experienced recurrence.

**Table 6: Comparison of recurrence in two groups.**

Recurrence	Traditional	Stapler
After 1 year	7	16
After 1 and half year	9	19

After 1 and half year, 2 patients required surgery in traditional group and 5 patients required surgery in stapler group.

**Table 7: Comparison of patients in each group who required further surgery.**

Category	No. of patients
Traditional	2
Stapler	5

**DISCUSSION**

On comparing both stapler haemorrhoidopexy and traditional haemorrhoidectomy, stapler haemorrhoidopexy has comparatively less postoperative pain, lesser urinary retention, constipation, lesser infection within 3 weeks of surgery. But there are higher chances of recurrence at the end of one and half year of study and

consequently the number of patients who need further surgery.

A meta-analysis of randomized controlled trials comparing this with dissection haemorrhoidectomy found that the stapled procedure was safe but on long-term follow-up was associated with a higher rate of and re-operation.<sup>11</sup>

A systematic review of fifteen randomized controlled trials, conducted by Nissar et al, which included 1077 patients and followed up for 6 weeks to 37 months, found that stapled haemorrhoidopexy has a shorter in-patient stay, operative time, and return to normal activity, but has a higher recurrence rate at a minimum follow-up of 6 months.<sup>12</sup>

In this study, the mean age of patients in traditional group was 45.1 years and the mean age of patients in stapler group was 46 years.

In the study done by Sachin et al, mean age of patients in traditional group was 39.2 years and the mean age of patients in stapler group was 39.69 years.<sup>13</sup> In a study done by Shalaby and Desoky, the mean age of patients in traditional and stapled group was 49.1 and 44.1 years respectively.<sup>14</sup> In a study by Khan et al the mean age was 40.7±11.6 years.<sup>15</sup>

In the present study, traditional group includes 55.6% of males, 44.4% of females and stapler group includes 56% of males and 44% of females. In the study by Sachin et al, traditional group included 66% of males, 34% of females and in stapler group included 54% of males and 46% of females.<sup>13</sup>

In total, 32.7% of patients have grade II haemorrhoids, 41.3% of patients have Grade III haemorrhoids and 35.6% of patients have Grade IV haemorrhoids. In a study by Sachin et al, 47% of patients have Grade III haemorrhoids, 53% have Grade IV haemorrhoids.<sup>13</sup> In a study by Khan et al, majority (53.3%) had third degree haemorrhoids.<sup>15</sup>

In the present study, infection, post-operative pain, urinary retention, constipation was noted higher in traditional group compared to stapler group, but recurrence and the need for further surgery are noted higher in stapler group compared to traditional group. In the study done by Sachin et al, urinary retention, bleeding, pain, incontinence was higher in traditional group.<sup>13</sup> Jayaraman et al noted that though associated with comparable short term results, stapler haemorrhoidopexy is associated with a higher long-term risk of haemorrhoid recurrence and the symptom of prolapse.<sup>16</sup> In a systematic review by Tjandra, Chan, stated that stapler is associated with many short term benefits and long term results are similar to conventional procedure.<sup>17</sup> Laughlan et al reported that stapled haemorrhoidopexy is associated

with reduced post-operative pain and less bleeding but an increased rate of recurrent prolapse.<sup>18</sup>

## CONCLUSION

Though stapler haemorrhoidopexy, as a novel technique, is associated with less post-operative pain, less other post-operative complications like constipation, urinary retention, infection but higher recurrence rate and the need for further surgery on long term should consider traditional haemorrhoidectomy as a procedure of choice over stapler haemorrhoidopexy.

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