

Research Article



INTERNATIONAL RESEARCH JOURNAL OF PHARMACY

www.irjponline.com

ISSN 2230-8407 [LINKING]

SURGICAL THERAPY OF THE HAEMORRHOIDS: A COMPARISON BETWEEN STAPLED AND TRADITIONAL HEMORRHOIDECTOMY

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Singh SK. Surgical Therapy Of The Haemorrhoids: A Comparison Between Stapled And Traditional Hemorrhoidectomy. International Research Journal Of Pharmacy 2019,10:11:75-79

DOI: 10.7897/2230-8407.1011322

ABSTRACT

Background: Up until recently, the most common surgical haemorrhoid therapy was conventional/Milligan-Morgan hemorrhoidectomy. However, with the advent of minimally invasive surgery, stapler hemorrhoidectomy became a popular therapeutic method with few problems.

Aim: The purpose of this study is to evaluate the surgical therapy of haemorrhoids by comparing stapled and standard hemorrhoidectomy.

Methods: Two groups of fifty participants each were created from the 100 subjects who were scheduled for hemorrhoidectomy; group I received stapled hemorrhoidectomy, whereas group II got standard hemorrhoidectomy. At the first and third weeks following surgery, all participants had evaluations for anal stenosis, anal incontinence, urine retention, wound infection, bleeding, and postoperative discomfort.

Results: Compared to stapler hemorrhoidectomy, the traditional technique's mean operational time was 45.77 ± 5.88 minutes longer. When comparing traditional hemorrhoidectomy to stapler hemorrhoidectomy, VAS values on days 1 and 3 were considerably higher ($p < 0.001$). Conventional hemorrhoidectomy resulted in a substantially longer hospital stay (mean stay duration of 7.22 ± 2.4 days versus 3.01 ± 2.1 days with $p < 0.01$) than stapler hemorrhoidectomy. Compared to traditional hemorrhoidectomy, stapler hemorrhoidectomy resulted in a shorter recovery period ($p < 0.01$). Subjects undergoing conventional hemorrhoidectomy had significantly higher postoperative bleeding rates; additionally, 4% ($n=2$) of these patients experienced anal stenosis; 8% ($n=4$) experienced anal incontinence; and 8% ($n=4$) experienced wound infection resulting from their procedure.

Conclusion: With a quicker return to regular activities, a stapler hemorrhoidectomy results in less postoperative discomfort, a shorter hospital stay, and less operating time. For those having hemorrhoidectomy, stapler hemorrhoidectomy is thus advised.

Keywords: conventional haemorrhoidectomy, hemorrhoidectomy, hemorrhoids, post-operative pain, stapler haemorrhoidectomy

INTRODUCTION

One of the most prevalent illnesses affecting people today is haemorrhoids, and treatments for them have been studied from the time of the Papyruses, which dates back more than 3000 BC. Hippocrates (405–400 BC) recommended burning, strangling, and excision. The term haemorrhoid, which means bleeding, comes from the Greek adjective haemorrhoids. The words haima, which means blood, and rhoos, which means flowing, indicate the

most noticeable symptom of haemorrhoids. The word piles, which means to bulge around the anus, comes from the Latin word pila. Haemorrhoids and piles are two synonyms that are used synonymously.²

The rate of surgery differs from the incidence of haemorrhoids, and it is challenging to determine their exact occurrence. According to reports, the incidence of surgery is 35/1 lakh in the UK and 50-60/1 lakh in the US, with a claimed frequency of 4.4% in the US population.³

Haemorrhoids have been treated in a variety of ways, but the most generally used method was the Milligan-Morgan hemorrhoidectomy, which was first described in 1937 and is still routinely used in modern surgical practice. Standard hemorrhoidectomy produces satisfactory outcomes. But the process is rather unpleasant, requiring lengthy hospital stays and carrying a number of risks, such as stenosis, urine incontinence, urinary retention, and/or haemorrhage that occurs right after.^{4,5}

The scenario, however, is changed following the introduction of minimally invasive surgery. Dr. Antonio Longo recommended the use of circular stapler hemorrhoidectomy in 1998 as a surgical procedure for haemorrhoids. The technique for prolapse and haemorrhoids, or PPH, has been coined for the stapler hemorrhoidectomy and is linked to a quicker return to regular activities and less pain following surgery.⁶ Although stapler hemorrhoidectomy has shown promising early results, there are a few drawbacks, such as a steep learning curve, the requirement for specialised training, and the necessity for pricey equipment.⁷ The goal of the current study was to compare the surgical therapy of haemorrhoids between stapled and standard hemorrhoidectomy. The study examined anal stenosis, anal incontinence, urine retention, length of hospital stay, wound infection, bleeding, and postoperative discomfort in comparison to traditional hemorrhoidectomy.

MATERIALS AND METHODS

The goal of the current study was to compare the surgical therapy of haemorrhoids between stapled and standard hemorrhoidectomy. The study examined anal stenosis, anal incontinence, urine retention, length of hospital stay, wound infection, bleeding, and postoperative discomfort in comparison to traditional hemorrhoidectomy. The Department of Surgery provided individuals for the research population. All subjects provided written and verbal informed permission after being fully told about the study's design. One hundred eligible patients who had stapled and conventional haemorrhoids in the Institute's Department of Surgery throughout the designated study period were included in the study. Subjects who met the following requirements were eligible to participate in the study: They had to be at least 18 years old, exhibit symptoms of haemorrhoids, and be willing to participate.

Subjects with additional anorectal disease, haemorrhoids with a fistula in ano, thrombosed haemorrhoids, asymptomatic haemorrhoids, and those who did not sign the consent form to participate in the study were excluded from the research. Following the final enrollment of research participants, each subject had a thorough medical history taken. A general clinical examination, which included a rectal and proctoscopic examination to grade the haemorrhoids, then followed. Because they are not recommended for surgery, Grade 1st was left out of the study.

As a result, Grade II, III, and IV were covered in the research for surgical treatment. Prior to the individuals being brought for the procedure, all participants underwent regular laboratory and blood tests as well as a chest screening.

Out of the 100 individuals, 50 received stapled hemorrhoidectomy in group I and 50 got standard hemorrhoidectomy in group II. All patients underwent postoperative evaluations for anal stenosis, anal incontinence, urine retention, wound infection, and bleeding after surgery. Visual Analogue Scale (VAS) was also used to measure postoperative discomfort. On the first postoperative day, all the parameters were evaluated, and then again on the day of discharge. Following their release, all of the individuals were summoned back for follow-up in the first and third postoperative weeks. Multivariate statistical methods and logistic regression were used to statistically evaluate the gathered data. Two forms were used to show the data: tabular and descriptive. SPSS version 22.0, 2013, Armonk, NY: IBM Corp and chi-square and Fisher exact test were utilized. The data were expressed as mean and standard deviations and as percentages and numbers with a 0.05% significance level.

RESULTS

In order to compare stapled and standard hemorrhoidectomy for the surgical treatment of haemorrhoids, the current study was conducted. There were 100 participants in the trial; 50 of them had stapled haemorrhoids, and 50 of them in group II had traditional haemorrhoids. Table 1 lists the participants' demographic information. The research respondents' average age was 48.88 ± 2.24 years. The study's sample consisted of 42% (n=42) females and 58% (n=58) males. Prolapse/mass per anum was seen in 71% (n=71) of the patients, followed by bleeding in 85% (n=85)

of the study subjects, constipation in 37% (n=37) of the study subjects, and discomfort in 19% (n=19) of the study subjects as the least prevalent presenting symptom.

For the grade of the hemorrhoids, grade II, III, and IV hemorrhoids were seen in 9% (n=9), 55% (n=55), and 36% (n=36) study subjects respectively with grade III being the most common finding. When the research participants' mean operating times were broken down by surgical method, it was found that stapler hemorrhoidectomy had a mean operative time of 39.14±6.24 minutes, whereas the traditional procedure had a mean operative time of 45.77±5.88 minutes. Table 2 illustrates that this difference was much larger for the traditional approach with $p<0.01$.

In relation to the comparison of postoperative parameters in the study participants after stapler hemorrhoidectomy and conventional hemorrhoidectomy, it was observed that the conventional hemorrhoidectomy group had significantly higher VAS (visual analogue scale) scores on Day 1 (mean score of 4.62 versus 1.82 for stapler hemorrhoidectomy, with $p<0.001$). Day 3 findings were comparable to day 1 VAS ratings, with mean VAS values for stapler and traditional hemorrhoidectomy being 0.87 and 3.19, respectively. This difference was statistically significant, with $p<0.01$. With a mean stay duration of 7.22±2.4 days for traditional hemorrhoidectomy and 3.01±2.1 days for stapler hemorrhoidectomy, respectively, with $p<0.01$, the length of hospital stay following hemorrhoidectomy was substantially longer. Table 3 shows that the time to return to regular activities was shorter with stapler hemorrhoidectomy (4.93±1.46 days) than with traditional hemorrhoidectomy (13.82±2.22 days; $p<0.01$).

According to the study's findings, the most frequent side effect was bleeding, which affected 16% (n=8) of patients who had stapler hemorrhoidectomy and 28% (n=14) of patients who had conventional hemorrhoidectomy. The rate of anal stenosis was observed in 4% (n=2) of patients who had conventional hemorrhoidectomy, anal incontinence in 8% (n=4) of patients who had conventional hemorrhoidectomy, and wound infection occurred in 8% (n=4) of conventional hemorrhoidectomy patients. No patient who had a stapled hemorrhoidectomy experienced anal incontinence, stenosis, or wound infection. 12% (n=6) and 16% (n=8) of the individuals in the stapler and traditional hemorrhoidectomy groups, respectively, reported having urinary retention. Table 4 shows that there was a statistically significant difference in complications between stapler and traditional hemorrhoidectomy ($p<0.01$).

DISCUSSION

The goal of the current study was to compare the surgical therapy of haemorrhoids between stapled and standard hemorrhoidectomy. Out of the 100 individuals in the research, 50 received stapled hemorrhoidectomy in group I and 50 got standard hemorrhoidectomy in group II. The research participants were 48.88±2.24 years old on average. In this current study, there were 42% (n=42) females and 58% (n=58) males. Prolapse/mass per anum, which was seen in 71% (n=71) of the participants, was the most frequent presenting complaint. Bleeding was recorded in 85% (n=85) of the research subjects, constipation in 37% (n=37) of the subjects, and discomfort was the least prevalent complaint in 19% (n=19) of the study subjects.

Haemorrhoids of grades II, III, and IV were observed in 9% (n = 9), 55% (n = 55), and 36% (n = 36) of the research participants, respectively, with grade III being the most prevalent finding. These results were in line with research conducted in 2005 by Bikhchandani J et al⁸, who evaluated participants with a mean age of 47.32, which was similar to the current study and similarly demonstrated that haemorrhoids were more frequent in men. As in the current investigation, grade II haemorrhoids were more prevalent, according to Thejeswi P et al⁹.

When the research participants' mean operating times were broken down by surgical method, it was found that stapler hemorrhoidectomy had a mean operative time of 39.14±6.24 minutes, whereas the traditional procedure had a mean operative time of 45.77±5.88 minutes. With $p<0.01$, the difference was much greater for the traditional method. These results were in line with research by Shukla S et al. (2010) and Gravie JF et al. (2011), which were similar to the current study and revealed that traditional hemorrhoidectomy requires more surgical time than stapler hemorrhoidectomy.

When comparing the postoperative parameters of study participants after stapler hemorrhoidectomy and conventional hemorrhoidectomy, the study's findings revealed that the conventional hemorrhoidectomy group's VAS (visual analogue scale) scores on Day 1 were significantly higher—a mean score of 4.62—than the stapler hemorrhoidectomy group's—with a p-value of less than 0.001. Day 3 findings were comparable to day 1 VAS ratings, with mean VAS values for stapler and traditional hemorrhoidectomy being 0.87 and 3.19, respectively. This difference was statistically significant, with $p<0.01$. With a mean stay duration of 7.22±2.4 days for traditional

hemorrhoidectomy and 3.01 ± 2.1 days for stapler hemorrhoidectomy, respectively, with $p < 0.01$, the length of hospital stay following hemorrhoidectomy was substantially longer.

After a stapler hemorrhoidectomy, it took 4.93 ± 1.46 days less time to resume regular activities than a traditional hemorrhoidectomy (13.82 ± 2.22 days; $p < 0.01$). These outcomes were consistent with earlier research by Ebert KH et al. (2002) and Tjandra JJ et al. (2007), which found that conventional hemorrhoidectomy significantly outperformed stapler hemorrhoidectomy in terms of VAS scores, length of hospital stay, and time to return to normal activity.

The most frequent side effect observed in this study was bleeding, which affected 16% ($n=8$) of subjects who had stapler hemorrhoidectomy and 28% ($n=14$) of subjects who had conventional hemorrhoidectomy. The incidence of anal stenosis was observed in 4% ($n=2$) of subjects who had conventional hemorrhoidectomy, anal incontinence in 8% ($n=4$) of subjects who had conventional hemorrhoidectomy, and wound infection was observed in 8% ($n=4$) of subjects who underwent conventional hemorrhoidectomy. No patient who had a stapled hemorrhoidectomy experienced anal incontinence, stenosis, or wound infection.

12% ($n=6$) and 16% ($n=8$) of the individuals in the stapler and traditional hemorrhoidectomy groups, respectively, reported having urinary retention. With $p < 0.01$, complications were much greater following traditional hemorrhoidectomy than following stapler hemorrhoidectomy. These side effects were similar to those seen in earlier research by Fazio VW et al. (2002, 14) and Mehigan BJ et al. (2000), who found that traditional hemorrhoidectomy caused noticeably more problems than stapler hemorrhoidectomy.

CONCLUSION

The current study suggests, within its constraints, that Stapler hemorrhoidectomy results in a quicker return to normal activities, less postoperative discomfort, and a shorter length of hospital stay. For those having hemorrhoidectomy, stapler hemorrhoidectomy is thus advised. The study's shortcomings were a smaller-than-expected population, shirt monitoring, and regional bias, all of which called for longer-term, longitudinal research.

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TABLES

S. No	Characteristics	Percentage (%)	Number (n=100)
1.	Mean age (years)	48.88±2.24	
2.	Gender		
a)	Males	58	58
b)	Females	42	42
3.	Presenting complaints		
a)	Pain	19	19
b)	Prolapse/ mass per anum	71	71
c)	Constipation	37	37
d)	Bleeding	85	85
4.	Hemorrhoid grades		
a)	II	9	9
b)	III	55	55
c)	IV	36	36

Table 1: Demographic and disease characteristics of the study subjects

S. No	Surgical technique used	Mean operative time (minutes)
1.	Stapler hemorrhoidectomy	39.14±6.24
2.	Conventional hemorrhoidectomy	45.77±5.88
3.	p-value	<0.001

Table 2: Mean operative time with the stapler and conventional hemorrhoidectomy in the study subjects

S. No	Postoperative parameters	Stapler hemorrhoidectomy	Conventional hemorrhoidectomy	p-value
1.	VAS scores			
a)	Day 1	1.82	4.62	<0.01
b)	Day 3	0.87	3.19	
2.	Hospital-stay duration (days)	3.01±2.1	7.22±2.4	<0.01
3.	Time to return to normal activities	4.93±1.46	13.82±2.22	<0.01

Table 3: Comparison of postoperative parameters with the stapler and conventional hemorrhoidectomy in the study subjects

S. No	Postoperative parameters	Stapler hemorrhoidectomy n (%)	Conventional hemorrhoidectomy	p-value
1.	Post-operative bleeding	8 (16)	14 (28)	<0.01
2.	Anal stenosis	0	2 (4)	
3.	Anal incontinence	0	4 (8)	
4.	Urinary retention	8 (16)	6 (12)	
5.	Wound infections	0	4 (8)	

Table 4: Postoperative complications with the stapler and conventional hemorrhoidectomy in the study subjects