ORIGINAL ARTICLE

Early Outcomes of Stapled Vs Conventional Hemorrhoidectomy

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ABSTRACT

Aim: To compare the early post-operative outcomes in patients with stapled hemorrhoidectomy versus conventional hemorrhoidectomy.
Study Design: Randomized Clinical Trial.
Place and Duration of Study: General surgery unit of Bolan Medical Complex Hospital Quetta from January 2016 to January 2017.
Methods:100 patients of Grade III or IV hemorrhoids were selected. The patients were divided into two equal groups to undergo either stapled (SH) or conventional hemorrhoidectomy (CH). Main study endpoints were severity of post-operative pain, and hospital stay and time to return to work after surgery.
Results: The mean age of study participants was 43.96±7.42 Years in SH group and 43.12±6.25 years in CH group. There was male predominance in both groups. Majority of patients were with grade III hemorrhoids. Duration of surgery was significantly less 42.24±6.89 minutes in SH versus 55.23±8.76 minutes in CH (p-value <0.001). Mean pain score and Hospital stay was also significant in stapled hemorrhoidectomy with p-value <0.001 &<0.001 respectively. Time to return to work was also significantly less in SH group 8.23±2.50 days versus 17.84±3.69 days in CH group (p-value <0.001). There were 20 (40%) patients with severe post-operative pain in conventional hemorrhoidectomy group and only 4 (8.0%) patients in stapled hemorrhoidectomy group (p-value <0.001).
Conclusion: Stapled hemorrhoidectomy is associated with less post-operative pain and is associated with early return to work after surgery.
Keywords: Stapled Hemorrhoidectomy, Conventional Hemorrhoidectomy, Post-operative pain.

INTRODUCTION

Hemorrhoids are enlargement and displacement of normal vascular anal cushions. Hemorrhoids are one of the oldest illnesses known to human beings. At least 50% of population suffer with some sort of hemorrhoids after the age of 50 years[1]. According to Ferguson and Heaton every individual suffer from some sort of hemorrhoids once in lifetime[2]. In patients with prolapsing hemorrhoids (Grade III or IV) surgical treatment is considered gold standard treatment. The ideal surgical treatment should result in less number of complications after the procedure and early return of patient to work after surgery[3].

Open hemorrhoidectomy is most commonly performed procedure due to its low cost and acceptable results[4]. Stapled hemorrhoidectomy (Longo's technique) has also gained importance in last few years.[5]Both these procedures carry favorable outcomes and are accepted by surgeons.

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But post-operative pain is a major problem after hemorrhoidectomy in both of these patients. Some investigators have found that stapled hemorrhoidectomy is associated with lower post-operative pain and allows early return to work after surgery[6,7]. The purpose of the present study is to compare the early post-operative outcomes in patients with stapled hemorrhoidectomy versus conventional hemorrhoidectomy.

MATERIALS AND METHODS

This prospective clinical trial was conducted in general surgery unit of Bolan Medical Complex Hospital Quetta. 100 patients of Grade III or IV hemorrhoids were selected. This study was completed in one year from January 2016 to January 2017. The patients were divided into two equal groups to undergo either stapled or conventional hemorrhoidectomy. Randomization was done using lottery method. Written informed consent regarding operation and study protocols was signed by all patients. Ethical approval was taken from hospital IRB department. Patients with history of previous anorectal surgery, chronic intestinal disease, liver cirrhosis and pregnant patients were excluded.

All procedures were done under general anesthesia. In all patients cleaning with saline enema one night before surgery, conventional hemorrhoidectomy was done according to Milligan Morgan technique. Pile mass was resected using artery forceps and diathermy. Vascular mass was 1st ligated by vicryl sutures and then divided by diathermy. While stapled hemorrhoidectomy was performed according to Longo's procedure by using a 33-mm circular stapling device and using an anal dilator or retractor and a suture anoscope. Peri-anal meperidine (7.5%) was used to control post-operative pain. Main study endpoints were severity of post-operative pain, and hospital stay and time to return to work after surgery. Intensity of pain was noted after 24 hours of surgery.

Data of study variables were entered prospectively in SPSS v 23 for compilation and analysis. Student's t-test and chi-square test were used for analysis of quantitative and qualitative data respectively.

RESULTS

The mean age of study participants was 43.96±7.42 Years in stapled hemorrhoidectomy group and 43.12±6.25 years in conventional hemorrhoidectomy group. There was male predominance in both groups. Majority of patients were with grade III hemorrhoids in both groups.

Duration of surgery was significantly less in 42.24±6.89 minutes in stapled hemorrhoidectomy versus 55.23±8.76 minutes in conventional hemorrhoidectomy (p-value <0.001). Mean pain score and Hospital stay was also significant in stapled hemorrhoidectomy with p-value <0.001 & <0.001 respectively. Time to return to work was also significantly less stapled hemorrhoidectomy group 8.23±2.50 days versus 17.84±3.69 days in conventional hemorrhoidectomy group (p-value <0.001).

Intensity of paint was noted after 24 hours of surgical procedures in both group patients. There were 20(40%) patients with severe post-operative pain in conventional hemorrhoidectomy group and only 4(8%) patients in stapled hemorrhoidectomy group with severe pain. There were 24(48%) patients with mild post-operative pain in stapled hemorrhoidectomy group and only 5(10%) in conventional hemorrhoidectomy group (p-value <0.001).

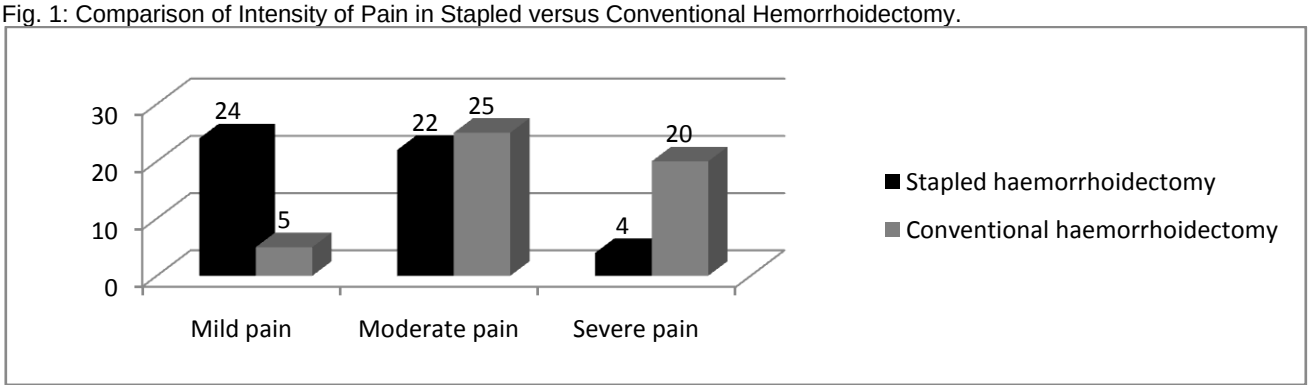
Table 1. Preoperative Characteristics.

Variable	Stapled Hemorrhoidectomy	Conventional Hemorrhoidectomy	P-value
Age (Years)	43.96±7.42	43.12±6.25	0.53
Male/Female	42/8	39/11	0.44
Duration of Hemorrhoids (Yrs)	1.70±0.76	1.58±0.73	0.80
Grades of Hemorrhoids (%)			
Grade III Hemorrhoids	29 (58%)	34 (68%)	0.30
Grade IV Hemorrhoids	21 (42%)	16 (32%)	

Table 2. Analysis of Study End-points

Variable	Stapled Hemorrhoidectomy	Conventional Hemorrhoidectomy	P-value
Duration of Surgery	42.24±6.89	55.23±8.76	<0.001
Mean Pain Score	3.96±1.86	6.06±1.72	<0.001
Hospital Stay	0.94±0.51	1.92±0.60	<0.001
Time to return to work	8.23±2.50	17.84±3.69	<0.001

Fig. 1: Comparison of Intensity of Pain in Stapled versus Conventional Hemorrhoidectomy.



DISCUSSION

Conventional hemorrhoidectomy is still performed frequently for surgical management of patients with grade III or IV hemorrhoids[8]. But this technique may interrupt daily life activities due to severe post-operative pain and delayed healing of peri-anal wounds may cause prolonged bleeding period.[9] On the other hand, stapled hemorrhoidectomy offers theoretical benefits because in this procedure no excision or dissection of peri-anal skin is done. So there is less risk of bleeding and severe pain.

In our study, we compared early post-operative outcomes of stapled hemorrhoidectomy with conventional hemorrhoidectomy. In our study, mean procedural time was significantly less in stapled hemorrhoidectomy (SH) group 42.24±6.89 minutes versus 55.23±8.76 minutes in conventional hemorrhoidectomy (CH) group. Other studies have also concluded short procedural time in stapled hemorrhoidectomy group, as in study by Bhandari et al. mean procedure time in stapled hemorrhoidectomy was 42±7.34 minutes versus 57.50±8.27 minutes in conventional hemorrhoidectomy group[10]. Similarly, in study by George et al. mean duration of procedure in stapled hemorrhoidectomy was 20 minutes during stapled hemorrhoidectomy and 31.60 minutes in conventional hemorrhoidectomy[6].

In our study, mean pain score after 24 hours of surgery was 3.96±1.86 in stapled hemorrhoidectomy group and 6.06±1.72 in conventional hemorrhoidectomy group. Manfredelli et al also found significant difference in post-operative pain score in stapled and conventional hemorrhoidectomy group.[11]They concluded that post-operative pain within 24 hours of surgery was significantly less in stapled hemorrhoidectomy group and after 24 hours of procedure there was no significant difference in post-operative pain in stapled and conventional hemorrhoidectomy groups. A meta-analysis involving results of five studies concluded that post-operative pain after 24 hours of surgery is significantly less in stapled hemorrhoidectomy patients[12]. In the study by schalaby et al mean post-operative pain score was 2.5 in SH group and 7.6 in CH group[13]. Similarly cheetham et al and Bekchandani et al also found significantly less post-operative pain in SH group as compared to CH group[14,15]. Only one study have found less post-op pain in CH group as compared to SH group[16]. Results of this study were opposite to the result of our study and many other studies.

In our study, there were 40% patients with severe post-operative pain in conventional hemorrhoidectomy group and only 8% patients in stapled hemorrhoidectomy group were with severe post-operative pain. Bhandari et al found severe post-operative pain in 8 patients while none of the patient experienced severe pain in SH group[10]. Khalil-ur-Rehman et al. also did not found any incidence of severe post-operative pain in SH group and found about 4% incidence of severe pain in CH group[17].

In our study, hospital stay and time to return to work was significantly shorter in SH group. In the study of George et al. average hospital stay was one day in SH group and 7 days in CH group[6]. Bhandari et al also found significantly less hospital stay time in SH group patients[10]. These studies also found significantly less period of time to return to work in SH group patients. Some other studies have also concluded faster recovery in patients of stapled hemorrhoidectomy as compared to open hemorrhoidectomy patients[16,18].

CONCLUSION

Stapled hemorrhoidectomy is associated with less post-operative pain and is associated with early return to work after surgery.

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