

IS STAPLED HEMORRHOIDECTOMY A SAFE PROCEDURE FOR THIRD AND FOURTH GRADE HEMORRHOIDS

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ABSTRACT

Objective: To compare the complications of Stapled Hemorrhoidectomy procedure among the patients of grade 3 and 4 hemorrhoids at a tertiary care teaching hospital of Pakistan.

Study Design: Observational study.

Place and Duration of Study: Combined Military Hospital Rawalpindi, from 01 Jan 2018 to 31 Oct 2018.

Material and Methods: A prospective study was conducted on 87 patients of grade 3 and 4 hemorrhoids diagnosed by consultant surgeon undergoing Stapled Hemorrhoidectomy at surgical unit of CMH RWP during the study period. Longos technique was used to perform the hemorrhoidectomy. Detailed assessment regarding all the complications was done immediately after the procedure at 48 hours, at time of discharge and two weeks after the procedure. VAS score was applied to assess the post-operative pain.

Results: A total of 87 patients were included in the final analysis that underwent the staple hemorrhoidectomy. Male to female ratio was 1.71:1. Post-operative pain was the commonest complication among the target population followed by bleeding. Mean age of patients who underwent the surgery was 41.13 (\pm 5.995). Most of the patients had grade three hemorrhoids. Out of 87 patients, 06 (6.9%) had bleeding, 11 (12.6%) had post-operative pain, 04 (4.6%) had prolapse and 03 (3.4%) had anal stenosis.

Conclusion: Stapled hemorrhoidectomy emerged as a safe and feasible technique for grade 3 & 4 hemorrhoids in our population. It should be preferred over the conventional hemorrhoids surgery in order to minimize the post-operative complications and improve the comfort of the patient. Special attention should be given on the pain relief modalities after the surgery.

Keywords: Grade 3 and 4 hemorrhoids, Outcome, Staple hemorrhoidectomy, Safety profile.

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INTRODUCTION

Hemorrhoids is a common surgical condition, which has both conservative and invasive management techniques¹. Usually the cause and degree of hemorrhoids is taken into account when the surgeon decides to choose between the different treatment modalities². Staple hemorrhoidectomy has been in practice for many years now and is a preferred mode of treatment in advanced hemorrhoids³.

Staple hemorrhoidectomy is an operator dependent technique involving cost issues as well⁴. It has limited side effects and good post-operative results. Various studies in the past have demonstrated that this procedure has been

superior to the conventional surgical treatment of hemorrhoids⁵. This procedure has also been associated with some hazards like post-operative pain or anal stenosis, but frequency is usually very less as compared to other methods^{6,7}.

A study done in Korea concluded that stapled hemorrhoidectomy was a safe and reliable method to treat grade 3 and 4 hemorrhoids⁸. A large randomized control trial revealed that efficacy of stapled hemorrhoidectomy was almost equal to the conventional method of hemorrhoidectomy⁹. A nationwide study in Netherlands concluded that it is less preferred mode of treatment as compared to the conventional hemorrhoidectomy¹⁰. Results of a study done in Italy revealed that stapled hemorrhoidectomy is a preferred and safe procedure in today's era¹¹. Therefore before offering the treatment options to the patient, the surgeon

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Received: 23 Nov 2018; revised received: 28 Jan 2019; accepted: 30 Jan 2019

must include all the available modalities including the stapled hemorrhoidectomy.

Despite its good safety profile multiple side effects have been observed in various studies in this procedure as well. Some of them include pain, wound discharge, hematoma formation, anal stenosis and anal fistulas^{12,13}. There can be few other rare complications also but essence lies in the awareness of surgeon and good communication to the patient prior to the final decision regarding the management.

Being from a developing nation with limited resources this topic is of utmost relevance in good surgical practice. Very limited local data is available on this aspect and that too from government hospital from another province¹⁴ but no study has so far been conducted at a tertiary care military hospital receiving patients from all over Pakistan including the public sector tertiary care hospitals. Improving the quality of life and making the patient disease free is the primary aim of any surgical management. However every surgical procedure brings along number of complications or untoward effects which must be minimized in order to provide the best management to the patient. Therefore our study provides a basic data and highlights the importance of the surgical procedure which is safe and feasible in our setup.

This study was planned with the rationale to look for the probable complications among the patients with grade 3 and 4 hemorrhoids undergoing stapled hemorrhoidectomy in a tertiary care teaching military hospital of Pakistan.

PATIENTS AND METHODS

This descriptive prospective study was conducted at the surgical department of Combined Military Hospital Rawalpindi, from 1st Jan 2018 to 31st Oct 2018. Sample size was calculated by WHO Sample Size Calculator. Non probability Consecutive sampling technique was used to gather the sample. All patients between the age of 18 and 60 years who suffered from grade 3 and 4 hemorrhoids and underwent stapled hemorrhoidectomy were included in this

study. Patients of both genders fulfilling the inclusion and exclusion criteria were made part of our study. Patients who were referred from other military, public sector and private hospitals who were willing for stapled hemorrhoidectomy were also included in the analysis in addition to the patients of own hospital. Exclusion criteria were the patients with less than eighteen year of age or those with uncontrolled diabetes or hypertension or any other physical or psychiatric illness. Patients with chronic infections or confirmed immunodeficiency were also not included in the study. Patients with any type of autoimmune or bleeding disorder were also part of the exclusion criteria.

After ethical approval from the ethical review board committee and written informed consent from potential participants, patients who had grade 3 or 4 degree hemorrhoids and underwent stapled hemorrhoidectomy at surgical unit of CMH Rawalpindi fulfilling the above mentioned inclusion and exclusion criteria were included in the study. Longos technique was used for the procedure. All the procedures were performed under the spinal anesthesia in lithotomy position. Pre procedure antibiotic were administered to all the patients. Usual operative time was 30-50 minutes and patient was kept in the recovery room three hours after the procedure. Routine analgesia and antibiotic cover was given to each patient as per the hospital protocol and condition of the patient. Most patients were discharged on the 3rd post-operative day. VAS score was applied to assess the post-operative pain. Detailed assessment regarding all the side effects was done immediately after the procedure at 48 hours, at time of discharge and two weeks after the procedure. A special proforma was designed for this study including the socio demographic profile and all the possible side effects of the procedure.

Grade 3 and 4 hemorrhoids are defined as

Grade III: prolapse during defecation, which need manually reduction.

Grade IV: persistent prolapse irrespective attempt to reduce the prolapse.

Visual analogue score (VAS score) of greater than 6 was considered as significant pain.

All statistical analysis was performed by using the Statistics Package for Social Sciences version 24.0 (SPSS-24.0). Frequency and percentages for gender, grade of hemorrhoids, and all the complications recorded during the study were calculated. Mean and standard deviation for age and duration of hemorrhoids before the surgery was also calculated for the study participants.

RESULTS

A total of 96 patients were initially approached to get them included in the analysis. Six had uncontrolled diabetes, one had history of heroine dependence and two did not give consent to include them in the study. Out of 87 patients included in the final analysis 55 (63.7%) were male and 32 (36.3%) were female. Mean age of patients put who underwent stapled hemorrhoidectomy was 41.13 (\pm 5.995). Male to female ratio was 1.71:1. Mean age of patients who underwent the surgery was 41.13 (\pm 5.995). Most of the patients had grade three hemorrhoids. Other characteristics of study population have been summarized in table-I. Post-operative pain was the commonest complication among the target population followed by bleeding (table-II). Out of 80 patients, 06 (6.9%) had bleeding, 11 (12.6%) had post-operative pain, 04 (4.6%) had prolapse and 03 (3.4%) had anal stenosis (table-II). Most of the patients had only one complication, only 2 patients had more than one complication (table-III).

DISCUSSION

Multiple treatment modalities have been available for the hemorrhoids depending upon the grade of illness and the choice of the patient. All treatment modalities have certain benefits and risks. Adequate analysis of risk and benefit ratio and explanation to the patient is the key of successful management. Surgical management especially involving the ano-rectal region

involves a lot of concerns so this study was conducted to look for the possible side effects of stapled hemorrhoidectomy among the patients presenting with grade 3 and 4 hemorrhoids in our population.

Most of the patients in our study were male with male female ratio of 1.71:1. Similar results were reported in a similar study done in past in

Table-I: Characteristics of study participants (n=87).

Age (years)	
Mean \pm SD	41.13 (\pm 5.995)
Range (min-max)	20 years - 59 years
Gender	
Male	55 (63.7%)
Female	32 (36.3%)
Duration of hemorrhoids before surgery	
	5.63 (\pm 6.725)
	10 months - 15 years
Grade of Hemorrhoids	
Three	63 (72.4%)
Four	24 (27.6%)

Table-II: complications faced by the patients after the procedures of stapled hemorrhoidectomy (n=87).

Medical Conditions	Frequency
Post-operative pain	11
Bleeding	06
Shock	02
Prolapse	04
Anal fissure	02
Anal stenosis	03
sepsis	01
others	01

TableIII: Outcome of patients put underwent stapled hemorrhoidectomy.

Total	No complication	One complication	< one complication
87	63 (72.4%)	24 (27.6%)	02 (2.5%)

our country and our neighboring country India which showed clear male dominance among the study population^{14,15}. Reason might be either females have lesser chance of getting hemorrhoids in south Asia or chances females with hemorrhoids reaching the tertiary care facility for surgical management are less as compared to males. Our sample was derived from a military

setting so chances of males being recruited in the study have been more automatically. More research is required to ascertain the difference in outcome of this procedure in both the genders.

Post-operative pain was the commonest complication in our patients after the stapled hemorrhoidectomy. Similar results were reported in other studies done in the recent past^{15,16}. In some studies other complications were more common than the post-operative pain^{12,14}. Variation in results could be due to the fact that pain threshold may be different in different populations and cultures. Moreover there is an affective component of pain as well and prevailing mood clearly has an influence on the pain threshold. VAS is also a subjective tool on which subjects may under or over rate their pain.

Sepsis and anal stenosis were the least reported complications in our data set. It is in accordance with the studies done in the past in local as well as western population¹⁴⁻¹⁷. Tertiary care teaching hospital is usually well equipped with staff and equipment. Adequate dose of antibiotics and safe surgical techniques may be cause of this less reported complication. This clearly shows that in well-equipped setups and trained hands stapled hemorrhoidectomy has very less serious complications.

Mean duration of hemorrhoids problem before the surgical intervention was around 5 years in our target population. It is quite high as compared to other parts of the world^{18,19}. Reason of late presentation and choosing the option of surgical management. It may be related to the myths of recurrence and complications. Results of our study may help in clarifying those myths even among the health professionals stating that stapled hemorrhoidectomy as a reasonably safe procedure for the advanced hemorrhoids. Grade 3 hemorrhoids were more common among our study participants as compared to grade 4. This is also in accordance with the existing literature¹⁴⁻¹⁶.

Risk of complications has also been linked with the surgical procedures. Hemorrhoidectomy was no exception to it¹⁹. Conventional surgical

method was more linked to these complications as compared to the stapled hemorrhoidectomy¹⁸⁻²⁰. Our analysis revealed that only 24 patients showed the presence of any complication and that included the mild complications including pain or bleeding. Rather mild complications were more as compared to the severe or long lasting ones. Only two patients showed more than one complication in our analysis. This is in contrast to the surgeries done by conventional method both in eastern and western parts of the world²¹. This comparison between the complications and outcome of two methods clearly identifies the superiority of stapled hemorrhoidectomy over the conventional method especially in grade 3 and 4 hemorrhoids.

The major limitation of our study is the lack of generalizability as patients from one surgical unit of a tertiary care hospital of Pakistan were studied instead of all hospitals of the country. The sample size, and design of study pose methodological issues as well. It was just the reflection of findings of one method of surgery. A randomized control trial between the conventional method and stapled hemorrhoidectomy would have generated more reliable results. Patients were not followed up for long term after the discharge so final outcome could not be determined. More studies on local population with a sophisticated study design preferably a randomized controlled trial and long term follow up of patients may reveal more useful results. Cost related issues should also be incorporated in the study design in order to paint a more practical picture for this mode of management in a developing country.

CONCLUSION

Stapled hemorrhoidectomy emerged as a safe and feasible technique for grade 3 & 4 hemorrhoids in our study sample. It should be preferred over the convention hemorrhoids surgery in order to minimize the post-operative complications and improve the comfort of the patient. Special attention should be given on the pain relief modalities after the surgery.

CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any author.

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