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HEMORRHOIDECTOMY;

STAPLED VERSUS CONVENTIONAL HEMORRHOIDECTOMY IN TERMS OF POST OPERATIVE PAIN AND HOSPITAL STAY.

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ABSTRACT… Objectives: Is to compare outcomes in terms of mean post-operative pain and hospital stay between stapled versus conventional hemorrhoidectomy. **Hypothesis:** There is a difference in mean post-operative pain and hospital stay between stapled and conventional hemorrhoidectomy, stapled technique is better than conventional technique. **Study Design:** Randomized control trial. **Setting:** Department of General Surgery Bakhtawar Amin Memorial Hospital Multan. **Period:** February 2016 February 2017. **Methodology:** A total number of 60 patients enrolled in the study, both genders. Statistical software SPSS ver.23 was used to analyze the data. Mean and SD were calculated and presented for numerical variables like duration of hemorrhoids, age and pain score while frequencies and percentage were calculated and presented for categorical variables like ender and grade of hemorrhoids. Independent t-test and chi square test were applied to see effect modification. P value ≤0.05 was considered as significant. **Results:** Total number of 60 (100%) patients in the study, 32 (53.3%) were male and 28 (46.7 %) were female. Mean hospital stay in group A was 1.63 ± 0.71 and in group B means duration of hospital stay was 1.73 ± 0.74. A P value was 0.001. On stratification of data it is concluded that in group A 9 patients have no pain 6 have mild and 6 have moderate pain and 5 patients have severe pain, similarly in group B, 3 patients have no pain 2 have mild pain 1 have moderate pain and no patient have severe pain. P value for male patients was 2.65. **Conclusion:** This study confirms that stapled hemorrhoidectomy is associated with less postoperative pain with no effect of age and gender on outcome.

Key words: Stapled versus **c**onventional hemorrhoidectomy, internal haemorroids

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INTRODUCTION

Hypertrophy of vacular bed from inside of anus called haemorrhaoid, normal function of these vascular cushions is to close the opening of anus to block the leakage of intestinal gas and feces. Usually hemorrhoids occur when vascular cushions over gorged and these blood vessels protrude into the anus due remissness of tissues around the anus.[1] Almost five percent of population faces this haemorrhoidal disease at any stage of life but it is more frequent in peoples of age more than 40 years.[2] Ithing, painful stool pass, bleeding, discharge are common symptoms. Haemorrhoidal may be external or internal or in some cases mixed picture also found and named as interno-external haemorrhoidal.

Further classification of internal hemorrhoid done with coligher system,[3] according to this system internal hemorrhoids are classified into four grades, bleeding hemorrhoids are labeled as grade I, protruding and bleeding hemorrhoids that settled spontaneously are labeled as grade II, bleeding and prolapsing hemorrhoids that needs manual settlement grade III and protruding irreplaceable hemorrhoids labeled as grade IV. All grades of internal haemorroids with symptoms of anal bleeding and prolapse can be treated none operatively except grade IV. Non operative management consist of anal divulsion, local injections, management with ice bags (cryotherapy) and laser therapy with infrared rays. Bipolar coagulation and direct electric current delivery are new techniques in field of general surgery for the management of hemorrhoids.[4,5]

In a metanalysis study conducted by MacRae and MacLeod[6] reported that internal haemorroids of grade one to three can be managed with ligation rubber bands. It is also reported in this study that this patients treated with this modality are not in need of any additional therapy as compared to patients treated with other technicians like infrared rays therapy and local injections. Rubber band ligation declare as a safe and effective management technique for bleeding internal haemorroids and established as a gold standard in 1951 in united states.[7,8] Results of previous studies shown that outcomes of this treatment modality are more satisfactory as compared to medicine alone that have significant ration of morbidities.[9] Old method of ligation also known as conventional band ligation was performed with a limited visualization technique of hard anoscope. Deficiencies of this technique overcome with a latest technique in which a complete video of procedure and operative site can be seen. This technique provide a complete video and image of operative area.[10]

Previous studies on this topic also shown results in favour of endoscopic ligation in terms of minimum complications and postoperative recovery till one year of procedure, and it is documented that endoscopic haemorriodectomy should be preferred over conventional haemorriodectomy in the treatment of internal bleeding hemorrhoids.[11]

METHODOLOGY

All patients fulfilling the inclusion/exclusion criteria enrolled through outpatient department of Surgery, Bakhtawar Amin Memorial Hospital Multan. An informed consent of the patients obtained to include their data in the study. Approval from the hospital ethical committee obtained to perform the study. The calculated sample size is 30 cases in each group, 80% power of study, taking mean duration of hospital stay in stapled hemorrhoidectomy (2.02+/_0.87) v/s (3.37 +/_ 2.2) in conventional hemorrhoidectomy. Total sample size is 60 patients. Patients were randomly allocated into two equal groups by Draws method. Two draws made one for group A and other for group B. First patient asked to pick one draw and included in respective group (i.e. A or B). Group A allotted for stapled haemorrhoidectomy (SH) and Group B to the conventional hemorrhoidectomy (CH). Both procedures performed according to departmental protocols in supervision of senior consultant. Mean post-operative pain and hospital stay recorded by the researcher himself on a pre-designed Performa (Annexure). Patients of age between 30-50 years, both gender, all diagnosed patients of grade III and IV haemorrhoids (on proctological examination), duration of disease less than 2 years were included. Previous history of anorectal surgery (on history and medical record), pregnant females, concomitant anorectal disorders, fecal incontinence (on history and medical record), patients not willing to participate in the study were excluded.

Mean post-operative pain assessed on VAS after 24 hours of the procedure. Post-operative hospital stay calculated from the day of surgery to discharge from the hospital following departmental protocols.

Data was analyzed using SPSS v 23.0. Mean and standard deviation calculated for quantitative variables like age, post operative pain and hospital stay. Categorical variables like gender calculated and presented as frequency and percentage. Independent sample t test used to compare post operative pain and hospital stay. Effect modifiers like age, gender, duration of haemorrhoids and grade of hemorrhoids controlled by stratification. post stratification chi square test applied. P value of <0.05 was considered as significant.

RESULTS

Total number of 60 (100%) patients in the study, 32 (53.3%) were male and 28 (46.7 %) were female. According to the age of patients in group A (stapled hemorrhoidectomy) mean age was 37.3 ± 6.36 and group B (conventional hemorrhoidectomy) mean age of patients was 39.1 ± 5.55 (Table-II). In group A mean pain score was 35.2 ± 35.7 and in group B mean pain score was 40.0 ± 34.1.

P = 0.15 (Table-III). Mean hospital stay in group A was 1.63 ± 0.71 and in group B means duration of hospital stay was 1.73 ± 0.74. A P value was 0.001

(Table-II). According to grade of hemorrhoids out of 60 (100%), 33 (55%) patients have Grade III hemorrhoids and 27 (45%) patients having grade IV hemorrhoids (Table-I). Percentage of duration of hemorrhoids out of 60 (100%), 31 (51, 7%) patients have duration between 1- 12 months and 29 (48.3%) patients have duration between 13-24 months (Table-II). On stratification of data it is concluded that in group A 9 patients have no pain 6 have mild and 6 have moderate pain and 5 patients have severe pain, similarly in group B, 3 patients have no pain 2 have mild pain 1 have moderate pain and no patient have severe pain. P value for male patients was 2.65 (Table-III). On stratification of data it is concluded that in group A, 2 patients have no pain 1 have mild pain no have moderate pain and 1 patients have severe pain, similarly in group B, 5 patients have no pain 6 have mild pain, 6 have moderate pain and 7 patient have severe pain. P value for male patients was 2.82 (Table-III to IV). As concern to the age of patients on stratification it is concluded that patients between age 30-40 years in group A, 2 patients have no pain 7 have mild pain 4 have moderate pain and 4 patients have severe pain, similarly in group B, 6 patients have no pain 5 have mild pain 4 have moderate pain and 5 patient have severe pain. P value was 0.188 (Table-III). As concern to the age of patients on cross tabulation it is concluded that patients between age 41-50 years in group A, 4 patients have no pain 2 have mild pain 2 have moderate pain and 2 patients have severe pain, similarly in group B, 2 patients have no pain 3 have mild pain 3 have moderate pain and 2 patient have severe pain. P value was 0.082 (Table-IV).

Frequency of Gender		
	Frequency	**Percentage (%)**
Male	32	53.3 %
Female	28	46.7 %
Grade of Hemorrhoids		
Grade III	33	55.0 %
Grade IV	27	45.0 %
Duration of hemorrhoids		
1-12 months	31	51.7%
13-24 months	29	48.3 %

Table-I. Frequencies of gender, grade of hemorrhoids and duration of hemorrhoids

	(Stapled hemorrhoi-dectomy) Group A	**(Conventional hemorrhoi-dectomy) Group B**	**P Value**
Pain Score	35.20 ± 35.71	40.03 ± 34.13	0.15
Hospital stay	1.63 ± 0.71	1.73 ± 0.74	0.001
Age	37.37 ± 6.36	39.17 ± 5.55	

Table-II. Value of independent t-test

Age groups	**Groups**	**Post-operative pain**				**P Value**
		1	**2**	**3**	**4**	
30-40 years	Group A (Stapled hemorrhoidectomy)	7	5	4	4	0.188
	Group B (Conventional hemorrhoidectomy)	6	5	4	5	
41-50 years	Group A (Stapled hemorrhoidectomy)	4	2	2	2	1.082
	Group B (Conventional hemorrhoidectomy)	2	3	3	2	

Table-III. Association of Age and postoperative pain

Age groups	**Groups**	**Post-operative pain**				**P Value**
		1	**2**	**3**	**4**	
Male	Group A (Stapled hemorrhoidectomy)	9	6	6	5	2.65
	Group B (Conventional hemorrhoidectomy)	3	2	1	0	
Female	Group A (Stapled hemorrhoidectomy)	2	1	0	1	2.82
	Group B (Conventional hemorrhoidectomy)	5	6	6	7	

Table-IV. Association of gender and post-operative pain

DISCUSSION

Patients with symptomatic hemorrhoids who have failed nonoperative treatments may require surgery and indications for surgical hemorrhoidectomy also include symptomatic hemorrhoids too expensive for nonoperative management, failure of medical treatment, and concomitant conditions, such as anal fissures or ulcers, that require surgery.[12,13] In old or conventional surgical technique of hemorrhoidectomy excision made on the cushions and this procedure considered as a best effective treatment of symptomatic hemorrhoids. This technique further divided into open (Milligan-Morgan and closed (Ferguson) techniques. Parallel to benefits some complication also associated with conventional hemorrhoidectomy like postoperative pain and bleeding, urinary problems (urinary retention) etc. To overcome these complications after surgery and for better postoperative outcome many treatment modalities have been used.
For the treatment of hemorrhoids a new technique was used by Longo in 1998[14], in this procedure a round stapling instrument was used by the surgeon to cut redundant rectal mucosal ring. During surgery with this new technique target is to reposition the hemorrhoidal tissues for normal adequate arterial blood flow, but this technique is not useable for removal of large hemorrhoids which is a hurdle for reduction of pain. This was confirmed in this systematic review, advantages of PPH were a shorter operation time, less postoperative pain, less postoperative urinary retention, and a quicker return to normal activity.

The systematic literature search identified 30 randomized, controlled trials, 19 comparing PPH versus conventional hemorrhoidectomy[15] Like those of the other controlled studies reported in the literature, the results reported here show that stapled hemorrhoidopexy is associated with significantly less postoperative discomfort. In our study 60 patients with haemorroids were chosen for the study and divided into two equal groups (group A and group B) 30 patients in each group. According to the age of patients in group A (stapled haemorrhoidectomy) mean age was 37.3 and standard deviation is 6.36 and group B (conventional haemorrhoidectomy) mean age of patients was 39.1 and standard deviation was 5.55. age groups are comparable with study by Bikhchandani j[16] showing mean age of patients 46.02 years (SD, 12.33) in the stapled group and 48.64 years (14.57) in the open group and with another study conducted by Shalaby R[17] showing the mean (SD) age of patients in the stapled and surgical groups was 44·1(3·2) and 49·1(12·2) years respectively. As concern to the gender of patients in this study out of 60 (100%) patients 32 (53.3%) were male and 28 (46.7 %) were female.

Mean pain score in group A was 35.2 and standard deviation 35.7 and group B mean pain score was 40.0 and standard deviation was 34.1. P = 0.1. In group A, 11 patients were having satisfactory outcome and in group B, 8 patients were have satisfactory outcome. When results of two groups were compared for postoperative pain it shows significant statistical difference in between two groups like those of the other controlled studies conducted by Ortiz H et al[18] and Rowsell M et al[19] reported in the literature,[20] the results reported here show that stapled hemorrhoidectomy is associated with significantly less postoperative discomfort than conventional hemorrhoidectomy.

Our results are also comparable with a study conducted by Gravie JF et al[21] reported that postoperative pain complaint significantly less in stapled group as compared to conventional group and pain is also less during bowel movement in this group. He also reported less analgesic requirement by the patients of stapled hemorrhoidectomy group. Similar results were reported by Senagore AJ et al and Shao WJ et al.[22] Another controlled trial conducted by Chen JS in 2007 found less postoperative pain and favour the stapled hemorrhoidectomy over conventional technique. 10-13.

In our study mean hospital stay in group A (stapled hemorrhoidectomy) was 1.63 ± 0.71 and in group B (conventional hemorrhoidectomy) means duration of hospital stay was 1.73 ± 0.74. A P value was 0.001. Our results are comparable with a latest study conducted by Samir shulka[23] in 2016, in that study mean hospital stay of stapled hemorrhoidectomy group was 3.25 ± 1.932

versus conventional group 6.16 ± 2.135.

CONCLUSION

This study confirms that stapled hemorrhoidectomy is associated with less postoperative pain with no effect of age and gender on outcome. Similarly mean hospital stay is also less in stapled group than conventional hemorrhoidectomy group.

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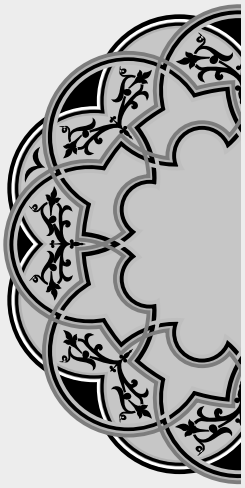

"Excellence is not being the best; it is doing your best."

Unknown

AUTHORSHIP AND CONTRIBUTION DECLARATION

Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
1	Shibber Ahmed	Conceived idea, Study design	
2	Ishtiaq Ahmad	Data collection, Literature review	
3	Humayun Amjid	Manuscript writing	
4	Aamir Furqan	Data analysis, Proof reading	