



ORIGINAL RESEARCH PAPER

General Surgery

CAN MINIMALLY INVASIVE PROCEDURE FOR HEMORRHOIDECTOMY (MIPH) BE USED ROUTINELY AS AN ALTERNATIVE TO OPEN HEMORRHOIDECTOMY- A RETROSPECTIVE COHORT STUDY

KEY WORDS:

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ABSTRACT

AIM- To compare minimally invasive procedure for hemorrhoidectomy and open hemorrhoidectomy during a follow up period of one year for morbidity and failure.

METHOD/MATERIALS- In a retrospective cohort study on 40 patients cross-matched for age operated during a period of 2017-2018 in a high volume tertiary care hospital, 20 belonging to the group which underwent MIPH and 20, who underwent open hemorrhoidectomy were reviewed at 4 weeks after operation, 6 months after operation and 12 months after operation. At 4 weeks and 6 months, routine history and examination both local and digital rectal(DRE) were performed and after 12 months a self prepared questionnaire (30 questions) was subjected to the patients evaluating recurrence of symptoms, quality of life, constipation and compared. Patients were also subjected to DRE. Patients were subjected to proctoscopy if required for diagnosis at any given point during evaluation. Chi square test and unpaired t test were used as test of significance.

RESULT- 1/20 operated for open hemorrhoidectomy at 4 weeks period had anal stenosis and none for MIPH. 2/20 patients operated for MIPH had recurred grade 1 or 2 internal hemorrhoids at 6 months and none for open group. Total 4/20 patients had shown recurrence in MIPH group all amenable to conservative management and 1/20 patient recurred in open group. Mean duration of defecation at one year of age 22.4 min for MIPH and 32.0 min for open hemorrhoidectomy.

CONCLUSION- Though the incidence of recurrence is more in case of MIPH than open hemorrhoidectomy in given follow-up period, the difference is not significant and MIPH appears to have lesser morbidity in terms of constipation.

INTRODUCTION

Hemorrhoids are one of the most common anorectal disorder which affects almost 25-30% of the population. It commonly presents as mass protruding per rectum and fresh bleeding per rectum. Hemorrhoids may be primarily due to chronic constipation, because of adaptation of erect posture by mankind, excessive straining to expel constipated stool or hereditary. It can also occur secondarily due to carcinoma of rectum, pregnancy, uterine tumors, difficulty in micturition due to stricture or enlarged prostate and portal hypertension. Hemorrhoids can be classified in many ways. Primarily they are divided into internal, external, and mixed types. Internal hemorrhoids are situated above the dentate line, covered with mucous membrane and external hemorrhoids lie below the dentate line, covered by skin. Another classification tells us the grading of the hemorrhoids ranging from grade I, being only symptomatic bleeding; grade II with spontaneous reduction of prolapsed hemorrhoids mass; grade III requiring manual repositioning of prolapsed hemorrhoids up to grade IV which are completely prolapsed hemorrhoids. Grade I and early grade II hemorrhoids can be treated conservatively with laxatives, dietary precautions, whereas grades III and IV require surgical interventions to treat the condition. Some grade II and III hemorrhoids can also be treated by Injection Sclerotherapy, banding or Infra-red/laser coagulation. There are various surgical methods available such as Ferguson's closed hemorrhoidectomy, Open Milligan-Morgan hemorrhoidectomy and Longo's Stapled Hemorrhoidopexy or MIPH. Hemorrhoidectomy by conventional technique causes considerable post-operative pain, prolong bed rest, post-operative complications. MIPH (Minimal Invasive Procedure for Hemorrhoids) is a new concept introduced by Longo in 1998 which was device to overcome these problems. Stapled hemorrhoidopexy or MIPH is an alternative for

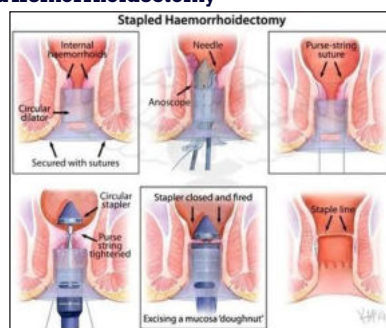
prolapsing grade III and IV hemorrhoids and has resulted in decrease post-operative pain, complications, low recurrence rate.

Technique

1. OPEN HEMORRHOIDECTOMY

This method was developed in the United Kingdom by Dr. Milligan and Morgan in 1937, mainly for hemorrhoids of grades II-IV. A V-shaped incision by the scalpel in the skin around the base of the hemorrhoid is followed by scissors dissection in the submucous space to strip the entire hemorrhoid from its bed. The dissection is carried cranially to the pedicle, which is ligated with strong catgut and the distal part excised. Other hemorrhoids are similarly treated, leaving a skin bridge in-between to avoid stenosis. The wound is left open and a haemostatic gauze pad left in the anal canal. The procedure is done under general or epidural anaesthesia. Postoperative pain and acute urine retention are common complications.

2. Stapled Hemorrhoidectomy

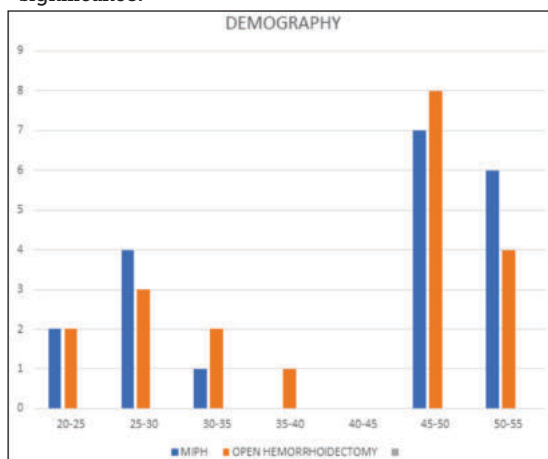


Aim

To compare minimally invasive procedure for hemorrhoidectomy and open hemorrhoidectomy during a follow up period of one year for morbidity and failure.

MATERIALS AND METHODS

- In a retrospective cohort study on 40 patients cross-matched for age operated during a period of 2017-2018 in a high volume tertiary care hospital, 20 belonging to the group which underwent MIPH and 20, who underwent open hemorrhoidectomy were reviewed at 4 weeks after operation, 6 months after operation and avg. 24 months after operation.
- At 4 weeks and 6 months, routine history and examination both local and digital rectal(DRE) were performed and after 12 months a self prepared questionnaire (30 questions) was subjected to the patients evaluating recurrence of symptoms, quality of life, constipation and compared.
- Patients were also subjected to DRE. Patients were subjected to anoscopy if required for diagnosis at any given point during evaluation.
- Chi square test and unpaired t test were used as test of significance.



AGE	MIPH	OPEN HEMORRHOIDECTOMY
20-25	2	2
25-30	4	3
30-35	1	2
35-40	0	1
40-45	0	0
45-50	7	8
50-55	6	4
TOTAL	20	20

OUTCOME

Patient outcomes were measured using methods to calculate significance by chi-square test, t-test and methods to calculate strength of association i.e. relative risk and attributable risk for various parameters.

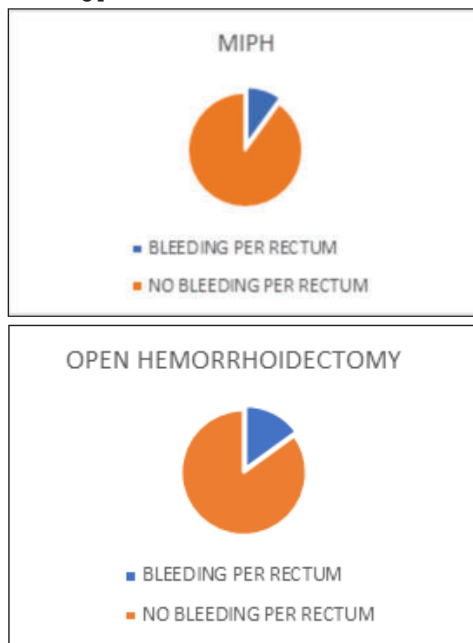
Patients were evaluated post operatively at 4 weeks, 6 months and currently as part of routine follow-up in our setting for these patients.

Follow up records were based on the findings mentioned in their OPD booklets.

Generally the patients were subjected to routine follow-up history for recurrent bleeding per rectum, constipation and digital rectal examination with anoscope.

At four weeks, bleeding per rectum was actively asked for during follow up history, DRE and anoscope were used to assess for anal stenosis and perianal sepsis (perianal abscess and perianal fistula).

a) for bleeding per rectum,



- **Relative Risk** (OPEN HEMORRHOIDECTOMY/ MIPH) IS 1.5 FOR BLEEDING PER RECTUM AT 4 WEEKS OF FOLLOWUP.
- **Attributable Risk** % FOR OPEN METHOD IS 50% MORE FOR BLEEDING PER RECTUM IN COMPARISON TO MIPH.
- BUT THE DIFFERENCE BETWEEN WO METHODS IS INSIGNIFICANT FOR p-value < 0.05 (p= 0.632585).

b) for anal stenosis,

ANAL STENOSIS	MIPH	OPEN HEMORRHOIDECTOMY
YES	0	2
NO	20	18

- RELATIVE RISK AND p-VALUE CANNOT BE CALCULATED.
- **Attributable Risk** % FOR OPEN HEMORRHOID ECTOMY IS 100% MORE IN COMPARISON TO MIPH FOR ANAL STENOSIS AT FOUR WEEKS OF FOLLOW-UP.

c) for perianal sepsis,

PERIANAL SEPSIS	MIPH	OPEN HEMORRHOIDECTOMY
YES	1	1
NO	19	19

- INCIDENCE OF PERIANAL SEPSIS IS SAME IN BOTH THE GROUPS.

At six months of follow-up with the help of anoscope and DRE, recurrence was checked.

Hemorrhoids	Present	Absent
MIPH	4	16
OPEN HEMORRHOIDECTOMY	1	19

- **Relative Risk** (MIPH/OPEN HEMORRHOIDECTOMY) IS 4 TIMES FOR RECURRENCE AT 6 MONTHS.
- **Attributable Risk** % (MIPH/OPEN METHOD) IS 75% AT 6 MONTHS OF FOLLOW UP.
- **P-value-** 0.151, HENCE DIFFERENCE IS NOT SIGNIFICANT FOR p-value < 0.05.

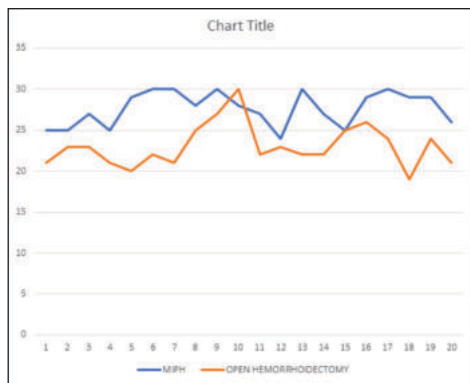
Mean follow up period for these 40 patients was found to be 24.8 months.

At mean follow-up, patient was subjected to a questionnaire

having 30 questions in relation to satisfactory bowel habits and an average of three consequent time for defecation was calculated for each individual and t-test were applied to both to look for significant difference.

Score Of Questionnaire

S.NO.	MIPH	OPEN HEMORRHOIDECTOMY
1	25	21
2	25	23
3	27	23
4	25	21
5	29	20
6	30	22
7	30	21
8	28	25
9	30	27
10	28	30
11	27	22
12	24	23
13	30	22
14	27	22
15	25	25
16	29	26
17	30	24
18	29	19
19	29	24
20	26	21

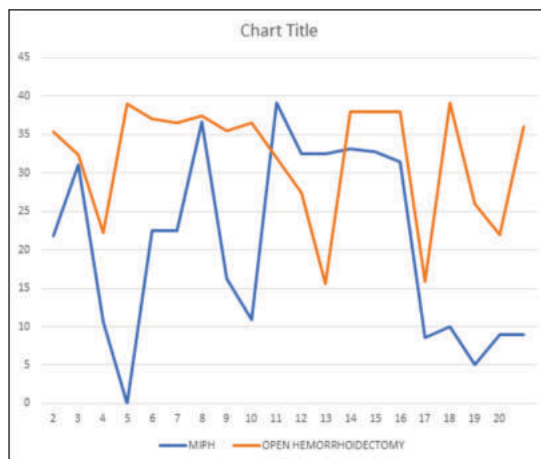


- MEAN SCORE (MIPH) = 27.65
- MEAN SCORE (OPEN HEMORRHOIDECTOMY) = 23.05
- t-value = 6.15923
- p-value < 0.00001
- Difference is significant.

Average Time For Defecation In Min.

S.NO.	MIPH	OPEN HEMORRHOIDECTOMY
1	21.9	35.4
2	31.1	32.4
3	10.6	22.2
4	32.4	39.0
5	22.5	37.0
6	22.5	36.5
7	36.7	37.5
8	16.3	35.5
9	10.9	36.5
10	39.1	32.0
11	32.5	27.4
12	32.5	15.6
13	33.2	38.0
14	32.8	38.0
15	31.4	38.0
16	8.6	15.8
17	10.0	39.2
18	5.0	26.0
19	9.0	22.0

20	9.0	36.0
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- MEAN SCORE (MIPH) = 22.4 MIN
- MEAN SCORE (OPEN HEMORRHOIDECTOMY) = 32.0 MIN
- t-value = -3.347
- p-value = 0.000908
- Difference is significant.

RESULTS

- 1/20 operated for open hemorrhoidectomy at 4 weeks period had anal stenosis and none for MIPH.
- 2/20 patients operated for MIPH had recurred grade 1 or 2 internal hemorrhoids at 6 months and none for open group.
- Total 4/20 patients had shown recurrence in MIPH group all amenable to conservative management and 1/20 patient recurred in open group.
- Mean duration of defecation at 24.2 months of follow up 22.4 min for MIPH and 32.0 min for open hemorrhoidectomy.

CONCLUSION

Though the incidence of recurrence is more in case of MIPH than open hemorrhoidectomy in given follow-up period, the difference is not significant and MIPH appears to have lesser morbidity in terms of constipation.

DISCUSSION

As compared to study "Outcome of Stapled Haemorrhoidectomy Versus Open Haemorrhoidectomy: A Randomized control trial" conducted at Shalimar Hospital, Lahore from 1st February 2013 to 31st January 2014, Stapler Hemorrhoidectomy has better outcomes in terms of bleeding PR. Comparing with "Stapled hemorrhoidectomy compared with conventional hemorrhoidectomy: systematic review of randomized, controlled trials

" at University Hospital, Queen's Medical Centre, Nottingham, United Kingdom, also revealed a higher recurrence rate for Stapled Hemorrhoidectomy as compared to Open Hemorrhoidectomy.

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