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Original Research Article

Open versus primary repair following hemorrhoidectomy for Grade III hemorrhoids: a prospective comparative study

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ABSTRACT

Background: The debate on open versus primary closure following haemorrhoidectomy continues to be active. Despite other methods like doppler guided haemorrhoidal artery ligation, sclerotherapy, cryotherapy, banding; open haemorrhoidectomy is performed at many places. The never-ending discussion on the better choice between open versus primary repair led to the initiation of this work.
Methods: This is a prospective comparative study of a contiguous and continuous cohort of 105 cases. Alternate cases were assigned for either of the procedures. Only grade III haemorrhoids were included. Grade I and II haemorrhoids, cases treated earlier and recurrent haemorrhoids were excluded. Multiple parameters like duration of surgery, intraoperative and post-operative bleeding, pain duration and severity, time taken to return to work, use of dressings and sitz bath, wound healing time and stenosis were studied. A blinded statistical analysis was done by a third-party statistician.
Results: Primary haemorrhoidectomy took a significantly longer time (P value- 0.0043). Pain was significantly less with open haemorrhoidecomy (P value- 0.0023). Post-operative pain was significant in primary repair. Pain was assessed using visual analogue scale and verbal rating scale. Open haemorrhoidectomy took a significantly longer time to heal (P value: 0.0004) and return to work (P value: 0.0001). Primary repair had stenosis requiring dilatation in a few cases. Statistical analysis was done in all cases.
Conclusions: Primary repair seems to be preferred because of shorter duration of recovery despite more pain and occasional anal stenosis.

Keywords: Adenocarcinoma, Colorectal, Carcinoma, Colonoscopy, Retrospective

INTRODUCTION

Haemorrhoids are normal, vascular tissue within the submucosa located in the anal canal. They are thought to aid in anal continence by providing bulk to the anal canal. They are typically located in the left lateral, right anterior, and right posterior quadrants of the canal. Haemorrhoids can be external or internal. External haemorrhoids are distal to the dentate line and may periodically engorge resulting in pain. Internal haemorrhoids are characterized by bright red painless bleeding or prolapse. Depending on the extent of the haemorrhoidal disease and the patient's symptoms, treatment can be either non-surgical or involve formal haemorrhoidectomy.[1]

Choice of surgery for hemorrhoidectomy has always been a matter of comfort, convenience and training. Although many studies have been done to compare the two

procedures: Age old open hemorrhoidectomy known as Milligan-Morgan hemorrhoidectomy and closed or primary repair after hemorrhoidectomy known as Ferguson technique, but consensus has not been arrived at. Therefore, the present study was conducted keeping all the parameters in mind to compare closed versus open hemorrhoidectomy.

The objective of the present study is to compare conventional open hemorrhoidectomy with heomrrhoidectomy with primary repair in the treatment of Grade III hemorrhoids.

METHODS

This is a prospective and comparative study of a continuous and contiguous cohort of 105 cases. Alternate cases were assigned for either of the procedures.

A total of 105 cases were included in the study. The cohort was divided into two groups:

- Group 1: Open hemorrhoidectomy or conventional hemorrhoidectomy (Milligan-morgan hemorrhoidectomy) constituting 55 cases
- Group 2: Hemorrhoidectomy with primary repair (Ferguson technique) constituting 50 cases.

Inclusion criteria

Only grade III hemorrhoids were included.

Exclusion criteria

- Grade 1 grade 2 hemorrhoids,
- All the hemorrhoids treated prior to surgery with either sclerotherapy, banding, staples
- Recurrent hemorrhoids

Parameters studied

The following parameters were studied

- Intra operative bleeding,
- Post-operative bleeding,
- Severity of pain,
- Duration of pain,
- Time to return to work,
- Need for dressings and sitz baths,
- Wound healing at one month,
- Long term sequel.

RESULTS

Both groups had 55- 50 cases each, all patient were male except one female patient in Group 1. All findings are written in reference to Table 1. Duration of the surgery was significantly lower with open hemorrhoidectomy (P value- 0.0043). The hemorrhoidectomy with primary repair took longer time. Intra operative bleeding was comparable in both groups (not statistically significant) (P value 0.55).

Table 1: Parameters and their value.

Parameters	Open hemorrhoidectomy (Group I)	Primary hemorrhoidectomy (Group II)	T value/chi square value	P value	
Duration of surgery (min)	50±42.5	80±61.9	T = 2.9172	0.0043	S
Intra operative bleeding (ml)	55±47.9	50±49.2	T = 0.5273	0.5591	NS
Post op bleeding (days)	6±4.8	2±1.2	T = 5.7297	0.0001	S
Pain severity AVG, VRS, VAS	4±3.8	7±5.9	T = 3.1254	0.0023	S
Pain duration (days)	2±1.2	6±4.9	T = 5.8662	0.0001	S
Return to work (days)	14±10.2	7±6.1	T = 4.2146	0.0001	S
Dressing and sitz bath (days)	12±9.8	4±3.2	T = 5.5094	0.0001	S
Wound healing					
Incomplete	17/55	2 / 50	$X^2 = 11.04$	0.0004447	S
Complete	38/55	48 / 50			
Stenosis	1/55	9 / 50	$X^2 = 6.192$	0.006417	S

A blinded statistical analysis was done by third party statistician. Open EpiInfo statistical software was used for analysis; S: Significant; NS: Not significant

Post-operative bleeding was longer in open hemorrhoidectomy as compare to closed hemorrhoidectomy (P value 0.0001). Post-operative bleeding continued up to an average of 6 days in open hemorrhoidectomy.

Pain was evaluated using Visual Analogue Scale, Verbal Rating Scale. Pain was significantly less in open hemorrhoidectomy (P value 0.9923). Open hemorrhoidectomy patients at an average took longer time to return to work, while most of the primary repair

group returned to work after 7 days. This was significantly shorter (P value 0.0001).

Need for dressings and sitz bath was longer at an average of 12 days for open group and 4 days for primary hemorrhoidectomy. It is significantly less (P value 0.0001).

When wound healing was assessed at 1 month, 69% of group 1 patients presented with incomplete healing while the wound had already healed in Group II patients. This was significantly shorter (P value 0.0004).

Long term sequel, long term follow-up showed 9 out of 50 primary hemorrhoidectomy patients had stenosis requiring dilatation. Stenosis was significantly more in primary repair group (P value 0.0064).

DISCUSSION

Hemorrhoidectomy is the accepted surgical treatment for grade-III hemorrhoids. Primary repair after hemorrhoidectomy was proposed by Ferguson.[2]

Conventionally post hemorrhoidectomy raw area was left open for healing by secondary intention and this was described by Milligan-morgan. A number of studies have been published comparing Millighan-Morgan technique with Ferguson hemorrhoidectomy. Most of the studies were confined to very few parameters. The present study, therefore was aimed at parameters like intra operative bleeding, post-operative bleeding, severity of pain, duration of pain, time taken to return to work, use of sitz baths and dressings, wound healing time and long-term sequel be taken into consideration. Uniformly, most publications have indicated no differences in intra operative bleeding between open and closed hemorrhoidectomy.[2-8] The present study showed significantly more bleeding with primary hemorrhoidectomy. Most of the publications have showed the operative time significantly different. The present study showed that closed technique took longer time.

The duration of post-operative bleeding was also a point of concern. The present study showed that post-operative bleeding/ooze was seen significantly for longer duration with an average of 6 days. $P \leq 0.05$

Severity of pain was also addressed by You SY et al, Gencosmanoglu R et al and Rajasekar M et al.[4,5,9] They showed that the pain severity was more with closed hemorrhoidectomy. Pain was assessed by Visual Analogue Scale (VAS) and Verbal Rating Scale (VRS) and it was significantly more in primary repair group. The difference was statistically significant.

Duration of the pain was studied by Gencosmanoglu R et al, Khalil-ur-Rehman et al and Rajasekar M et al, post-operative pain was mentioned not to be significantly different.[5,6,9] Present study showed that post-operative pain was significant for more number of days (an average of 6 days) in closed hemorrhoidectomy while open hemorrhoidectomy the pain was for a shorter duration (an average of 2 days).

Return to work has not been studied much in literature. The present study looked at time taken for return to work. This was significantly longer in open hemorrhoidectomy. Requirement of dressings and sitz baths was also studied. Present study shows open hemorrhoidectomy patient require dressing and sitz bath significantly for longer duration (average of 12 days) as opposed to 4 days in closed hemorrhoidectomy. When wound healing was compared at the end of one-month, closed hemorrhoidectomy patients had near complete healing. While most patients in open hemorrhoidectomy had incomplete healing. Stenosis was also addressed in literature by Ahsan M et al and Kumar M et al. They showed that stenosis rate was higher in closed hemorrhoidectomy.[10,11]

The present study also shows significantly higher incidence of stenosis. Thus, it seems that open hemorrhoidectomy has lesser pain but healed slowly. While closed hemorrhoidectomy had more severe pain but healed completely but has higher chances of stenosis in long term.

CONCLUSION

Primary repair seems to be preferred because of shorter duration of recovery despite more pain and occasional anal stenosis

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REFERENCES

1. Courtney M. Townsend. Sabiston Textbook of Surgery. 20th edition. Elsevier; 2017(2):1400.
2. Hetzer FH, Demartines N, Handchin AE, Clavien P. Stapled versus excision hemorrhoidectomy: long-term results of a prospective randomized trail. Arch Surg. 2002;137:337-40.
3. Arbman G, Krook H, Haapaniemi S. Closed versus open hemorrhoidectomy: is there any difference? Dis Colon Rectum. 2000;43:31-4.
4. You SY, Kim SH, Chung CS, Lee DK. Open versus closed hemorrhoidectomy. Dis Colon Rectum. 2005;48:108-13.
5. Gencosmanoglu R, Sad O, Koc D, Inceoglu R. Hemorrhoidectomy: open or closed technique? A prospective, randomized clinical trial. Dis Colon Rectum. 2002;45:70-5.
6. Khalil-ur-Rehman, Hasan A, Taimur M, Imran M. A comparison between open and closed

hemorrhoidectomy. J Ayub Med Coll Abbottabad. 2011;23:114-6.
7. Bhatti MI, Sajid MS, Baig MK. Milligan-Morgan (open) versus Ferguson haemorrhoidectomy (closed): a systematic review and meta-analysis of published randomized, controlled trials. World J Surg. 2016;4(6):1509-19.
8. Borse H, Dhake S. A comparative study of open (Millign-morgan) versus closed (Ferguson) hemorrhoidectomy. MVP J Med Sci. 2016;3:7-10.
9. Rajasekar M, Jasmine. Comparative study of outcume of open vs closed hemorrhoidectomy vERSUs rubber band ligation in third degree haemorrhoids. IOSR-JDMS. 2017;16:29-34.
10. Ahsan M, Hussain SN. Stapled haemorrhoidopexy versus conventional (open) haemorrhoidectomy: a comparative study. JMSCR. 2017;05:232, 629-74.
11. Kumar M, Sinha K. Open haemorrhoidectomy versus closed haemorrhoidectomy: a comparative study. JMSCR. 2017;05:21698-701.

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