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Original Article

Acomparative study of dghal using rar with open haemorrhoidectomy for treatment of grade iii and iv haemorrhoids

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ABSTRACT

Hemorrhoids are the most common anal disease and many modalities are available for its treatment. In our study, we compared Doppler-guided Hemorrhoid Artery Ligation combined with Recto Anal Repair and open Hemorrhoidectomy. Study conducted on 50 patients with Grade III and Grade IV haemorrhoids. We observed DGHAL procedure has less post operative pain, less need for analgesic, less operative time and more patient satisfaction. DGHAL with RAR is safe and easy method for treating hemorrhoids.

1. Introduction

Hemorrhoids are vascular structures in the anal canal which help with stool control (1,2). In their physiological state, they act as a cushion composed of arterio-venous channels and connective tissue. They become pathological or piles when swollen or inflamed (3). This condition occurs due to abnormal blood flow that leads to tissue protrusion from the anal canal (4,5). Patients mostly complain of pain, discomfort, bleeding and itching. There are different types of hemorrhoids (Internal and External) which are differentiated via their position with respect to the dentate line (2). Both produce variable symptoms. The types of hemorrhoids and their symptoms govern treatment. Symptomatic hemorrhoids are treated with dietary manipulations, bulking agents, stool softeners, band ligation, cryotherapy, and sclerotherapy (6). Invasive treatments such as open hemorrhoidectomy have been used to treat hemorrhoids. Hemorrhoidectomy has been most commonly used, but has disadvantages of severe postoperative pain, longer time to return to daily living, and complications such as anal stricture(6).

To overcome these disadvantages, new treatment method Doppler-guided hemorrhoidal artery ligation has been introduced by Morinaga in 1995 (7, 10). DGHAL has a low recurrence rate, higher patient satisfaction, and minimal pain (8). However, it has a limitation in the treatment of advanced hemorrhoids where anal prolapse is the main symptom. For this reason, the simultaneous conduct of artery ligation and recto-anal repair has been recently introduced and has been reported to achieve good treatment outcomes (9). In our study we compare the value of DGHAL-RAR and Open Hemorrhoidectomy as methods of treating patients with symptomatic third-fourth degree hemorrhoids.

AIM & OBJECTIVES

To evaluate and compare Doppler Guided Haemorrhoidal Artery Ligation (DGHAL) using Recto-Anal Repair (RAR) technique with Open Haemorrhoidectomy in Grade III and IV of hemorrhoid patients.

MATERIAL AND METHODS

This was a prospective study conducted on 50 patients with third and fourth degree hemorrhoids which have to undergone DG-HAL & RAR in 25 patients and Open Hemorrhoidectomy in 25 patients in SRMSIMS Hospital, Bareilly, Department of Surgery between the period of August 2011 to September 2013. A complete medical history was taken with emphasis on haemorrhoidal symptoms, previous treatment and concurrent anorectal conditions. Clinical and proctoscopic examination was carried out in all patients.

Outcome measures included symptom relief, time taken in procedure, post-operative pain, duration of stay, requirement of post operative analgesia, duration to resume work and patient satisfaction. All patients underwent a one-year follow-up study, at 7 days, 1 month and 6 months.

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Patients who were diagnosed with concomitant anal diseases such as anal fissure or fistula or with an incarcerated hemorrhoid or thrombotic hemorrhoid, growth in rectum and patients with portal hypertension, on preoperative anal examination were excluded from the surgery. Pregnant females, Elderly individuals beyond 70 yrs and patents with grade I and II hemorrhoids were also excluded from the surgery.

Two procedures were performed – Doppler Guided Haemorrhoidal Arterial Ligation with Recto Anal Repair (DGHAL-RAR) in GROUP A and Open Haemorrhoidectomy in GROUP B.

$P < 0.05$ was considered statistically significant.

RESULT

Table 1: Age wise distribution of patients in two groups

Age Group (Years)	Group A (n=25)		Group B (n=25)	
	No.	%	No.	%
≤20	1	4.0	1	4.0
21-30	6	24.0	6	24.0
31-40	7	28.0	5	20.0
41-50	2	8.0	6	24.0
51-60	6	24.0	6	24.0
61-70	3	12.0	1	4.0
Mean Age±SD (Range) in years	41.64±14.98 (20-65)		41.60±13.96 (17-65)	

=3.333 (df=5); p=0.659

Table 2: Gender wise distribution of patients

Gender	Group A (n=25)		Group B (n=25)	
	No.	%	No.	%
Male	21	84	17	68.0
Female	4	16	8	32.0

c^2=1.754 (df=1); p=0.185

Table No. 3 - Distribution of cases according to presenting complaints

Complaint	Group A (n=25)		Group B (n=25)		Significance of difference	
	No.	%	No.	%	c^2	P
Bleeding per rectum	24	96	24	96	0	1
Constipation	5	20	3	12	0.595	0.440
Mass per rectum	4	16	8	32	1.754	0.185
Pain during defecation	18	72	22	88	2.000	0.157
Itching	1	4	0	0	1.020	0.312
Mucous discharge	2	8	1	4	0.355	0.552

Table No. 4 - Distribution Of Cases According To Post Operative Pain

POST OPERATIVE PAIN	Group A (n=25)		Group B (n=25)	
	No.	%	No.	%
NO PAIN	6	24	2	8
MILD PAIN	10	40	15	60
MODEATE PAIN	8	32	6	24
SEVER PAIN	1	4	2	8

Table No. 5 - Distribution Of Cases According To Duration Of Hospital Stay

Duration of hospital stay (days)	Group A (n=25)	Group B (n=25)
ONE	22	18
MORE THAN ONE DAY	3	7

Table No. 6 - Distribution Of Cases According To Requirement of Post Operative Analgesia

Post Operative Analgesia	Group A (n=25)	Group B (n=25)
Required	4	9
Not Required	21	16

Table No. 7 - Distribution of cases according to follow up findings

Features	Study Group (n=25)		Control Group (n=25)		Significance of difference	
	No.	%	No.	%	c^2	P
Pain	3	12	25	100	39.286	<0.001
Bleeding	0	0	11	44	14.103	<0.001
Analgesic use	1	4.0	15	60	21.429	<0.001
Pain	0	0	2	8	2.083	0.149
Bleeding	0	0	2	8	2.083	0.149
Analgesic use	0	0	0	0	-	-
Pain	0	0	0	0	-	-
Bleeding	0	0	0	0	-	-
Analgesic use	0	0	0	0	-	-

DISCUSSION:-

In present study, the age of patients ranged from 17-65 years with maximum number of cases being in the group of 31 to 60 years old. It was found that only two patients were below 20 years of age. However, peak incidence was observed after 40 years of age. These findings indicate that with changing lifestyle and dietary habits, the age of onset is decreasing.

Majority of subjects were males (n=38; 76%) and there were 12 (24%) females. Male to female ratio of study population was 3:1. In present study, bleeding per rectum was the most common compliant (n=48; 96%) followed by pain during defecation (n=40; 80%), mass per rectum (n=12; 24%), constipation (n=8; 16%), mucous discharge (n=3; 6%) and itching (n=1; 4%) respectively. As all the patients had third and fourth degree hemorrhoids which are characterized by bleeding, pain or discomfort. Hemorrhoids are thought to be associated with several predisposing or provoking factors, such as chronic straining to pass constipated stools, prolonged erect posture, hereditary factors, abnormal toilet habits, pregnancy, and/or low fiber intake. The findings in present study showed these risk factors to be found in a number of our cases thus showing that hemorrhoids is one of the lifestyle disorders, prevalence of which could be reduced by adopting healthy lifestyle and good dietary practices. In present study, the operative time, immediate post-operative pain, duration of hospital stay, and requirement of post operative analgesia were found to be lower in group A as compared to group B ($p<0.05$). A number of authors have supported the view that DGHAL-RAR reduces the intraoperative complications as observed in terms of lower rate of complications in present study (Arnold et al., 2002)(11). Similar to our study, Felice et al. (2005)(12) found lower need of postoperative analgesia. Scheyer et al. (2006)(13) also found the HAL to be a painless, effective and low complication surgery as observed in present assessment. In present study, at first follow up only 3 patients in DGHAL-RAR group reported of pain as compared to all the 25 (100%) in open hemorrhoidectomy group, similarly bleeding was not reported in any of the DGHAL-RAR group patients as compared to 11 (44%) of control group patients. Analgesic use was also less (4%) in DGHAL-RAR group as compared to open hemorrhoidectomy group (60%). Hence, showing a significantly faster recovery using DGHAL-RAR technique as compared to open hemorrhoidectomy. DGHAL-RAR is a quick response surgery which provides faster functional recovery and low postoperative pain. The results in present study are endorse the findings of Greenberg et al. (2006)14 who observed a complete function recovery by the third postoperative day itself. The faster recovery and return to normal functional status has also been reported by Faucheron et al. (2008)15 who reported that 84% of their patients were discharged on the day of operation itself. Forrest et al. (2010)16 reported this proportion to be 96%. All these findings indicate that DGHAL-RAR is a safe technique which ensures faster recovery with negligible or no complications as observed in present study. In another study Jeong et al. (2011)17 indicated mean return to normal activity time of 2.3±2.0 days. On second follow up interval, though DGHAL-RAR and open hemorrhoidectomy groups did not show a significant difference yet DGHAL-RAR group was marked by absence of any complication like pain, bleeding and analgesic use, thus indicating full restoration of normal functions and quality of life of the patients. At third follow up, none of the patients in either of two groups showed any complications. The findings in present study indicated that DGHAL-RAR is an effective technique for high degrees (III/IV) of hemorrhoids and can be used as a low complication, early recovery procedure which has midterm efficacy too. However, compared to open hemorrhoidectomy it not only reduces the pain and agony of the patient but also saves surgical time and hospital resources by reducing post-operative hospital stay. The technique is therefore recommended at all the centers where necessary resources are available.

CONCLUSSION

Hence we conclude that, Males were more affected as compared to females. Bleeding per rectum, pain during defecation and mass per rectum were the common complaints. Mild pain was reported by majority. Operative time, immediate post-operative pain, and analgesic use was significantly lower in patients managed through DGHAL-RAR as compared to those who were managed by open hemorrhoidectomy. At follow up in DGHAL-RAR group pain, bleeding and analgesic use was less compared to open hemorrhoidectomy group, thus indicating full restoration of normal functions and quality of life of the patients.

The findings in present study indicated that DGHAL-RAR is an effective technique for III and IV degree of hemorrhoids which has lower intraoperative and immediate post-operative complications, high patient satisfaction and a long-term success rate. Within the limitations of present study, the technique can be recommended as a procedure of choice in III/IV degree hemorrhoids in centers with adequate infrastructural facilities.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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