HAEMORRHOIDS

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ABSTRACT... Objective: The objectives of the study are to compare the outcome of the Doppler Guided Haemorrhoidal Artery Ligation and open Haemorrhoidectomy in 2nd & 3rd Degree Haemorrhoids. **Study design:** Comparative study. **Place and duration of study:** Study was carried out at the General Surgical Department at Liaquat University Hospital, Jamshoro & private hospital Hyderabad from 2008 – 2009. **Methodology:** Study consisted of 50 patients of diagnosed cases of heamorrhoid. Patients were divided in two groups. In Group A Standard open Haemorrhoidectomy and Group B we used Doppler Guided Haemorrhoidal artery ligation. Detailed history was taken from all the patients with special regard to the bleeding per rectum or some thing coming out during defecation and Clinical examination of anal canal DRE and Proctoscopy was done. **Results:** In both groups male were 37 (74%) and female 13 (26%) with male: Female Ratio of 2:8:1. Age ranging from 20 to 60 years in both group, mean ages of patients were 38.28 + 10.355 years. 3rd degree haemorrhoid 31(62%) while 2nd degree 19(38%). Complications were mild to moderate pain 24(96%) patients in DG – HAL group while moderate to severe pain 23(92%) in excisional heamorrhoidectomy group. Anal stenosis in 2(8%), patients, anal fissure 1(4%) patients and feacal incontinence 1(4%) patients were observed only in excisional heamorrhoidectomy. Recurrence occurred in one case (4%) in each group. **Conclusions:** DG – HAL procedure has a low rate of complications, earlier mobilization, implies a shorter hospital stay and offers the patient a more comfortable postoperative period than Excisional heamorrhoidectomy procedure.

Key words: Doppler Guided Haemorrhoidal Artery Ligation, Open Haemorrhoidectomy , 2nd & 3rd Degree Haemorrhoids, complications

INTRODUCTION

Heamorrhoids [Greek: haima= Blood, rhoos= flowing; synonym piles (Latin: pila = a ball)] are dilated veins occurring in relation to anus[1]. Haemorrhoidal disease is one of the most common anorectal conditions[2]. Haemorrhoidal are a common disease in both eastern world. The incidence is estimated at 8%, the prevalence at 10%[3]. Estimates of the proportion of the UK population affected range from 4.4% to 24.5% and more than 15 million people are to be affected annually within the United States[4].

Haemorrhoids are caused by enlargement and distal displacement of normal arterio-venous anal cushion which may prolapsed through the anal canal. Even in a normally person, three anal vascular cushions are found in the 3,7 and 11 o'clock position consisting of redundant rectal mucosa, arterioles, venules and arterio-venular anastamoses. They are supported by elastic connective tissue and smooth muscle. They are mostly supplied by terminal superior rectal artery veins which drain into the inferior mesenteric vein. Haemorrhoid occur when these vascular cushions enlarge and eventually proplase through the anus[5,6]. Fresh bleeding per rectum is most common presenting feature of haemorrhoid, mucosal prolapse and puritus ani[8]. Pain is not common feature. Normally pain is not present, only discomfort may be the symptom but in the presence of thrombosed or prolapsed and infected piles, the pain is present[9].

The various treatment options have been used to treat haemorrhoid. 1st and 2nd degree haemorrhoids usually respond to conservative treatment. This includes; changing bowel habit through dietary and lifestyle changes, increased oral hydration and the use of stool softeners and laxatives. Increased dietary fiber has been demonstrated to be consistently beneficial in relieving overall symptoms and bleeding[10]. When patients do not respond to conservation treatment, several different non invasive methods are used. These are rubber band ligation, injection scleroptherapy, cryotherapy, diathermy coagulation and infrared coagulation. These can be

performed in an outpatient setting and are considered to be primary options in the treatment of 1st, 2nd and 3rd degree haemorrhoids[10,11]. Surgery is the definitive treatment for haemorrhidal disease with better results among all modalities. Despite its good result Hemorrhoidectomy is associated with more pain and morbidity than non invasive methods. This treatment is generally reserved for persistent 3rd and 4th degree hemorrhoids[12,13,14].

In 1995 a Japanese surgeon Dr. Mroinaga was first one to introduce a new technique Doppler Guided Heamorrhoidal arterial Ligation (DG – HAL), In this technique he used Doppler Scope to find and ligate the vessels supplying the heamorrhoids[15,16].

This method proved to be effective treatment for 2nd and 3rd degree heamorrhoid.
As heamorrhoidal disease is equally common in this part of the world there are very few studies on this procedure, so we carried this comparative study to access the best option for haemrrhoidectomy.

MATERIAL AND METHOD

This was a comparative study carried out at the General Surgical Department at Liaquat University Hospital, Jamshoro & private hospital Hyderabad from 2008 – 2009. This study consisted of 50 patients of diagnosed cases of heamorrhoid. Patients were divided in two groups. To achieve results equivalent to Surgical intervention with less pain and morbidity. Detailed history was taken from all the patients with special regard to the bleeding per rectum or some thing coming out during defecation and Clinical examination of anal canal DRE and Proctoscopy was done.

All patients underwent for base line investigation including Hb%. All those pts who were anaemic were corrected. In Group A standard and Patients with other anal problems such as anal fistulas or fissures were excluded from this study.

In Group A Standard open Haemrhhoridectomy (Milligan Morgan), was done in spinal anaesthia. In Group B we used Doppler Guided Haemorrhoidal artery ligation (DG – HALL) under spinal anaesthia.

In this group we used an protoscope with an incorporated Doppler probe inserted into the anus with a specially made sleeve, and the superior hemorrhoidal artery was identified with the Doppler probe (Fig.1) The detection of the branch of the superior hemorrhoidal artery was confirmed by a sound from the Doppler probe and an image display on the monitor. Ligation of the artery was carried out through the window of the protoscope with a figure-of-eight suture using vicryl#2-0. Correct ligation of the artery was confirmed by absence of the Doppler sound, and a knot – pusher was used to tie a knot.The patient of both groups were compared for various parameters like operative time, postoperative pain, time of mobilization, postoperative complication, hospital stay, duration of return to normal life.

RESULTS

In both groups male were 37 (74%) and female were 13 (26%) with male: Female Ratio of 2:8:1. There was wide variation age ranging from a minimum of 20 years to 60 years in both group, mean ages of patients were 38.28 + 10.355. The majority of the patients of the both groups had 3rd degree haemorrhoid 28 (56%) while 2nd degree 22(44%). The most common complain in both group was bleeding per rectum during defecation in 39 (78%) patients, constipation in 24(48%) patients followed by prolapsed in 13(26%) patients, discharge and pruritus ani in 3(6%) patients in both groups (Table I). The most frequently complication seem in this study were mild to moderate pain 24(96%) patients in DG – HAL group while moderate to severe pain 23(92%) in excisional heamorrhoidectomy group (Table No. II, Fig.1).

Anal stenosis in 2(8%), patients, anal fissure 1(4%) patients and feacal incontinence 1(4%) patients were observed only in excisional heamorrhoidectomy. Recurrence occurred in one case (4%) in each group (Table No. II, Fig. 2).

DISCUSSION

Haemorrhoids are clinical manifestation of vascular plexuses that encircled distal rectum and anal canal[17,18]. Haemorrhoid are the most frequent disease of anal region. Haemorrhoids are most common disease of

western world and 4 to 10% affect the general population[3,11,19,20,21].

In our study female 26% was less affected then male 74%, male to female ratio was 2:8:1. However the male to female ratio given by Qureshi S23 is 3:1 and Lyer VS24 is 1:6:1 which is quite different from present study.

The age ranged from 20 to 60 years in both group with mean age 32.28+10.355 which is comparable to other

Fig-1. Postoperative pain variable

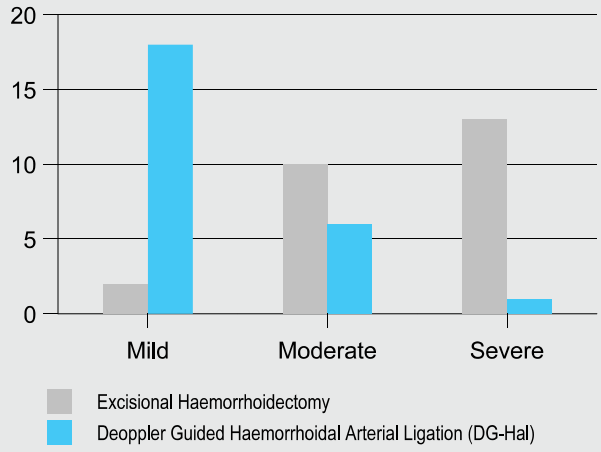

Fig-2. Postoperative variable

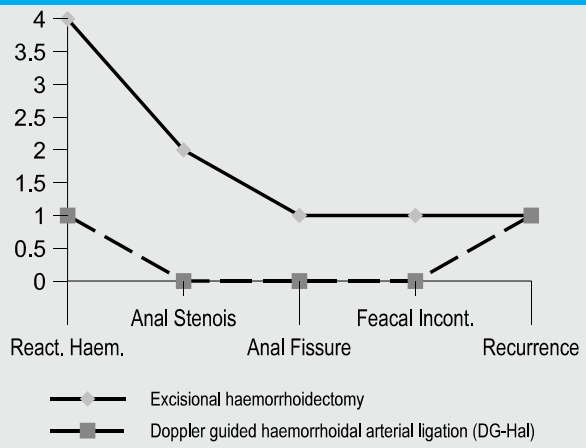

Table-I. Patients demographic profile

Variable	OPERATIVE PROCEDURE			
	Excisional haemorrhoidectomy		Doppler guided haemorrhoidal arterial ligation (Dg-Hal)	
	No. of patients	%age	No. of patients	%age
Gender				
Male	18	72%	19	76%
Female	07	28%	06	24%
Presenting complaints				
Bleeding per rectum	20	80%	19	76%
Constipation	12	48%	12	48%
Prolapsed	07	28%	06	24%
Discharge	02	08%	01	04%
Pruritis	01	4%	02	08%
Degree of haemorrhoids				
2nd Degree	12	48%	10	40%
3rd Degree	13	52%	15	60%

Table-II. Postoperative variables

Variable	OPERATIVE PROCEDURE				
	Excisional haemorrhoidectomy		Doppler guided haemorrhoidal arterial ligation (Dg-Hal)		
	No. of patients	%age	No. of patients	%age	P-value
Pain					
Mild	02	08%	18	72%	
Moderate	10	40%	06	24%	<0.001
Severe	13	52%	01	04%	
Reactionary Haemorrhage	04	16%	01	4%	
Anal stenosis	02	08%	-	-	
Anal fissure	01	04%	-	-	0.12
Feacal incontinence	01	04%	-	-	
Recurrence	01	04%	01	04%	
Hospital stay					
1st day	-	-	06	24%	
2nd day	11	44%	18	72%	<0.001
3rd day	14	56%	01	04%	

study where the mean age was 40 years and average mean age 50 to 50.2+15 years[16,21]. In our study majority of the patients we found 3rd degree haemorrhoid 62% while 2nd degree haemorrhoid 38% in both group where as Cho SW et al[16] reported 38% in 2nd degree haemorrhoids and 47% in 3rd degree haemorrhoids.

In our study the bleeding per rectum 80% and constipation 48% were the commonest presentation followed by prolase 28% patients in both group. However in study of Ali U et al[26] the patients presented with bleeding per rectum 90% and patient had prolapsed 80%. Excisional heamorrhoidectomy patients looks more in discomfort, feels, more pain and have delayed recovery as compared to Doppler Guided Heamorrhoidal arterial Ligation (DG – HAL) procedure where they have minimum surgical stress, less postoperative pain, quick recovery. In this study majority of cases 96% of Excisional heamorrhoidectomy group felt moderate to severe pain and have late recovery as compared to Doppler Guided Heamorrhoidal arterial Ligation (DG – HAL) group where 98% felt mild to moderate pain ($p<0.001$) with quick recovery and therefore less analgesic required in Doppler Guided Heamorrhoidal Arterial Ligation (DG-HAL) group. Same has been found in other study conducted by Bursics A[26].

The postoperative morbidity due to various early and late complications was observed in Excisional heamorrhoidectomy group as compared to DG-HAL group (EH=36% V/S DG-HAL=8%). In other studies the rate of postoperative complications given by Felice G is 7.5% for DG-HAL procedure and Hetzer FH given 25% for Excisional heamorrhoidectomy group is also less then present study. In our study 90% of patients had improvement after DG-HAL procedure and patient

satisfaction was 86%. Further more, there was 1(4%) complication of recurrence as compare to Excisional heamorrhoidectomy group there were 2(8%) anal stenosis, 1(4%) anal fissure and 1(4%) feacal incontinence. Same has found to other studies.

In our study DG-HAL procedure is associated with shorter hospital stay as compared to Excisional heamorrhoidectomy. The hospital stay in this study ranged 1-3 days in both group with mean stay of hospitalization as 1.80+0.50 days in DG-HAL group and 2.8+1.57 days in Excisional heamorrhoidectomy group ($p<0.001$). It is comparable to other studies given by Cho SW mean postoperative hospital stay was 1.4days in DG-HAL group and in Excisional heamorrhoidectomy group was 2.1 days and 3.5+0.5.

Return to normal work extended from 1 to 25 days in Excisional heamorrhoidectomy group and 1 to 4 days in DG-HAL group in our series . Mean resumption time to work was 18+3.6 days for Excisional heamorrhoidectomy group and 2.8+ 1.8 days for DG-HAL group patients. Return to normal work given by Bursics A in their study was 24.9+ 24.5 days for convensional heamorrhoidectomy and 3.0+5.5 days for DG-HAL. In other published literatures 20.7 days for Excisional heamorrhoidectomy and 1.8 days for DG-HAL.

CONCLUSIONS

This study concludes that DG – HALL is a safe and effective treatment of haemorrhoid disease. The DG – HAL procedure has a low rate of complications, earlier mobilization, implies a shorter hospital stay and offers the patient a more comfortable postoperative period than Excisional heamorrhoidectomy procedure, because of this we recommend this procedure in all diagnosed cases of 2nd and 3rd Degree Haemorrhoids.

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