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Original research article

A comparative study of pain and bleeding between Barron's band ligation and open haemorrhoidectomy in the treatment of hemorrhoids

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Abstract

Haemorrhoids have plagued humans since they attained the erect posture. The word 'haemorrhoid' is derived from Greek word haemorrhoides, meaning flowing of blood (haem=blood, rhoos=flowing). The word 'piles' comes from Latin word pila meaning a pill or ball. To be accurate, we should call the disease as piles when the patient complains of a swelling and 'haemorrhoids' when he or she complains of bleeding. The subjects fulfilling the inclusion criteria were divided in to two groups Group I and Group II, 1st patient was recruited in Group I and 2nd patient was recruited in group II. Similarly every odd numbered patient was recruited into Group I and even numbered patient was recruited into Group II. Group I patients underwent Open Haemorrhoidectomy and Group II patients underwent Barron's band ligation. In Open Haemorrhoidectomy group, 72% had mild, 24% had moderate and 4% had severe pain. In Barron's band ligation group, 24% had no pain, 76% had mild pain. There was significant difference in pain between two groups. In Open Haemorrhoidectomy group, 60% had bleeding and in Barron's band ligation group, 28% had bleeding. There was significant difference in bleeding between two groups.

Keywords: Barron's band ligation, open haemorrhoidectomy, hemorrhoids

Introduction

Haemorrhoids are one of the most common ailments to afflict mankind, but it is impossible to give an accurate figure for their prevalence. Although many patients present with symptomatic disease, many do not and some never have symptoms, whether such individuals can be considered to have a disease must remain a moot point [1]. Haemorrhoids have plagued humans since they attained the erect posture. The word 'haemorrhoid' is derived from Greek word haemorrhoides, meaning flowing of blood (haem=blood, rhoos=flowing). The word 'piles' comes from Latin word pila meaning a pill or ball. To be accurate, we should call the disease as piles when the patient complains of a swelling and 'haemorrhoids' when he or she complains of bleeding1.

Treatment is classified in three categories as per the guidelines issued by the American Society of Colon and Rectal surgeons [2]: (a) conservative treatment, which consists of in increasing dietary fiber, avoiding straining at stools, and prolonged staying on toilet. Sitz baths in ointments containing local anesthetic, mild astringent, and steroids that provide short-term relief, (b) minimally invasive procedures which include RBL, injection sclerotherapy, infrared coagluation, anal stretch, cryosurgery, laser hemorrhoidectomy, and Doppler-guided hemorrhoidal artery ligation, and (c) surgical therapy includes closed hemorrhoidectomy, open hemorrhoidectomy, stapled hemorrhoidectomy, and Whitehead haemorrhoidectomy [3, 4].

There has been a long search for the best method of treatment for hemorrhoids. A well-established approach to prophylaxis and treatment is to regulate the patient defecation and failing this, to use surgical methods. A wide variety of.

Methodology

Source of Data: Department of General surgery

Study Population

50 Consecutive cases of 2nd and 3rd degree haemorrhoid presenting to the outpatient department of general surgery were included in the study.

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Inclusion Criteria

- Patients diagnosed to have 2nd and 3rd degree haemorrhoid
- Patients with age group 18- 65 years.

Exclusion Criteria

- Secondary haemorrhoids.
- Complicated haemorrhoid such as thrombosed, infected, ulcerated, gangrenous and strangulated.

Duration of study: 2 years

Study Design: Comparative Prospective study.

Sampling technique: Convenient Sampling Method.

Sample size: 50 consecutive samples divided in to two groups [25 in each group].

Method of Data Collection

The subjects fulfilling the inclusion criteria were divided in to two groups Group I and Group II, 1st patient was recruited in Group I and 2nd patient was recruited in group II similarly every odd numbered patient was recruited into Group I and even numbered patient was recruited into Group II. Group I patients underwent Open Haemorrhoidectomy and Group II patients underwent Barron's band ligation.

Data from all the patients was collected using Structured Proforma. Detailed clinical history was taken in all the patients with particular reference to bleeding per rectum, constipation, prolapse, painful defecation discharge per rectum, dietary habits, and family history of hemorrhoids. Detailed general physical exam was done in all. Each patient was subjected to local examination (DRE), proctoscopy. Techniques are currently available for the surgical treatment of Hemorrhoids. Enthusiastic reports of success with injection sclerotherapy, rubber band ligation, photocoagulation and formal Haemorrhoidectomy have been made. However, the increasing number of techniques suggested for dealing with hemorrhoids attests to the lack of universal satisfaction with those currently available. Under these circumstances, other factors like associated morbidity, long-term complications, hospital bed stay requirement and cost effectiveness should be taken into consideration in choosing a form of therapy.

Results

Table 1: Mean Age distribution comparison between two groups

	Group	N	Mean	SD	P value
Age	Open Haemorrhoidectomy	25	47.64	9.912	0.202
	Barron's band ligation	25	51.08	8.860	

Independent Samples Test

Mean age of subjects in Open Haemorrhoidectomy group was 47.64±9.912 years and in Barron's band ligation group was 51.08±8.860 years. There was no significant difference in age distribution between two groups.

Table 2: Sex distribution comparison between two groups

		Group					
		Open Haemorrhoidectomy		Barron's band ligation		Total	
		Count	%	Count	%	Count	%
Sex	Female	14	56.0%	15	60.0%	29	58.0%
	Male	11	44.0%	10	40.0%	21	42.0%

χ 2 =0.082, df =1, p =0.774 [Chi-square test]

In Open Haemorrhoidectomy group, 56% were females and 44% were males and in Barron's band ligation group, 60% were females and 40% were males. There was no significant difference in sex distribution between two groups.

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Table 3: Pain distribution comparison between two groups

		Group					
		Open Haemorrhoidectomy		Barron's band ligation		Total	
		Count	%	Count	%	Count	%
Pain	Absent	0	0.0%	6	24.0%	6	12.0%
	Mild	18	72.0%	19	76.0%	37	74.0%
	Moderate	6	24.0%	0	0.0%	6	12.0%
	Severe	1	4.0%	0	0.0%	1	2.0%

$\chi 2 = 13.027$, df =3, p =0.005* [Chi-square test]

In Open Haemorrhoidectomy group, 72% had mild, 24% had moderate and 4% had severe pain. In Barron's band ligation group, 24% had no pain, 76% had mild pain. There was significant difference in pain between two groups.

Table 4: Bleeding distribution comparison between two groups

		Group					
		Open Haemorrhoidectomy		Barron's band ligation		Total	
		Count	%	Count	%	Count	%
Bleeding	Absent	10	40.0%	18	72.0%	28	56.0%
	Present	15	60.0%	7	28.0%	22	44.0%

$\chi 2 = 5.195$, df =1, p = 0.023* [Chi-square test]

In Open Haemorrhoidectomy group, 60% had bleeding and in Barron's band ligation group, 28% had bleeding. There was significant difference in bleeding between two groups.

Discussion

In Open Haemorrhoidectomy group, 56% were females and 44% were males and in Barron's band ligation group, 60% were females and 40% were males. There was no significant difference in sex distribution between two groups.

Saeed MT *et al*., [5] in group a we performed Milligan-Morgan hemorrhoidectomy. In this group 54 (77.14%) patients were male and 16 (22.85%) were female with male to female ratio of 3.3:1. In Group B rubber band ligation was performed on 70 patients. In this group 61 (87.14%) patients were male and 9 (12.85%) were female with male to female ratio 7.7:1. Gagloo MA *et al*., [6] In the rubber band ligation (R) group, 33 patients were males and 17 females (M: F01.9:1), and in the haemorrhoidectomy (H) group, 37 were males and 13 females (M:F02.8:1).

Potluri B *et al*., [7] observed that in Open Hemorrhoidectomy group, 73.3% were males and 26.7% were females and in Rubber Band Ligation group, 76.7% were males and 23.3% were females. There was no significant difference in Gender distribution between two groups.

Ali SA *et al*., [8] observed that in Milligan Morgan or open haemorrhoidectomy group 45 (90%) were male and 5(10%) females. Ratio male: female ratio of 9:1. In Rubber band ligation (RBL) group 47 (94%) were male and 3 (6%) females with male: female ratio of 15.6:1. Thakkar NB *et al*., [9] observed that out of the 50 patients, 35 were males and 15 were females (M: F=7:3) in the rubber band ligation (R) group, 15 patients were males and 10 females (M:F=1.5:1), and in the haemorrhoidectomy (H) group, 17 were males and 08 females (M: F= 2.1:1).

In Open Haemorrhoidectomy group, 72% had mild, 24% had moderate and 4% had severe pain. In Barron's band ligation group, 24% had no pain, 76% had mild pain. There was significant difference in pain between two groups.

Potluri B *et al*., [7] in their study observed that the mean ± SD postoperative pain vas score at 12 hours of Open Hemorrhoidectomy group [3.03±0.81] is higher than the Rubber Band Ligation group [2.73±0.58]. However, there is no significant difference between the Open Hemorrhoidectomy and Rubber Band Ligation group for postoperative pain vas score at 12 hours (p = 0.131). The mean ± SD postoperative pain vas score at 24 hours for Open Hemorrhoidectomy and RBL group is0.43±0.50 and 0.47±0.51. However, there is no significant difference between the Open Hemorrhoidectomy and Rubber Band Ligation group for postoperative pain vas score at 24 hours (p = 0.131). The findings were contradicting our study findings. Our study observed significant difference in in pain between two groups.

Dilawaiz M *et al*., [10] observed hat in open haemorrhoidectomy 30 patients (60%) developed moderate to severe pain and 40% complained of mild pain. In Rubber Band Ligation group, 20% patients complained of mild pain.

In Open Haemorrhoidectomy group, 60% had bleeding and in Barron's band ligation group, 28% had bleeding. There was significant difference in bleeding between two groups.

In Open Haemorrhoidectomy group, 60% had Urinary retention and in Barron's band ligation group, 32% had Urinary retention. There was significant difference in Urinary retention between two groups. In Open Haemorrhoidectomy group, 4% had Stenosis and in Barron's band ligation group, 0% had Stenosis. There was no

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significant difference in Stenosis between two groups.
In the study by Thakkar NB *et al*., [9] it was observed no bleeding in 70% in the R group and 80% in the H group. Improvement of bleeding was reported by 20% in the R group and 16% in the H group and no improvement by 10% in the R group and 4% in the H group. These findings suggest Rubber Band Ligation as an excellent method and equally efficient as haemorrhoidectomy in control of bleeding.

Conclusion

1. Open Haemorrhoidectomy group patients experienced significantly higher pain compared to Barron's band ligation group.
2. Open Haemorrhoidectomy group had significantly higher bleeding rate compared to Barron's band ligation group.

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