



Comparison of Demographic profile Between rubber Band Ligation & Sclerotherapy in the Management of Second Degree Haemorrhoid

KEYWORDS

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ABSTRACT

Introduction : Hemorrhoids are one of the most common reasons that patients seek consultation from a colon and rectal surgeon. Sclerotherapy had been used in the office setting prior to ligations for internal hemorrhoid bleeding. Rubber band ligation is perhaps the most common outdoor procedure performed as it can be accomplished quickly without anesthesia or a bowel preparation. The present study was conducted to determine if demographic profile is playing any role in the treatment option in the management of second degree hemorrhoid with rubber band ligation & sclerotherapy. **Aims & objectives :** To find out demographic profile between rubber band ligation & sclerotherapy in the management of second degree haemorrhoid & to compare the demographic profile between rubber band ligation & sclerotherapy in the management of second degree haemorrhoid. **Methodology :** The study was the cohort study conducted on 100 patients admitted in the surgical wards of all units with clinically diagnosed second degree haemorrhoid & family history of mean age, sex, bowel habits dietary habits, parity in female, family history alcoholism in the subjects in both types of surgeries was taken & results were obtained. **Results & Observations :** Mean age of the patients was statistically not significant. In RBL group bleeding alcoholics were 23 patients while in Sclerotherapy group it was there in 25 patients. This difference was statistically non significant indicating that alcohol drinking habit was almost similar in both groups. In RBL group family history, Bowel habit, Dietary habits difference was statistically non significant indicating that family history of haemorrhoid was almost similar in both groups. in the subjects in both types of surgeries was statistically non significant. **Conclusion:** Role of demographic profile to determine type of treatment in management of second degree haemorrhoid is not clear & need further study with large sample size .

Introduction

Hemorrhoids are one of the most common reasons that patients seek consultation from a colon and rectal surgeon. The contributing factors include situations that increase intra-abdominal pressure such as pregnancy, constipation, or prolonged straining, as well as weakening of supporting tissue as a result of aging or genetics. It is thought that clinical disease develops as a result of dilation and distension of the veins along with weakening of the supporting connective tissue.¹

Hemorrhoids are highly vascular submucosal cushions that generally lie along the anal canal in three columns—the left lateral, right anterior, and right posterior positions. Clinically evident bleeding arises from the peri-sinusoidal arterioles and are therefore arterial in nature.² Hemorrhoids play a significant physiologic role in protecting the anal sphincter muscles and augment closure of the anal canal during moments of increased abdominal pressure (e.g., coughing, sneezing) to prevent incontinence and contribute 15 to 20% of the resting anal canal pressure.³ Increases in abdominal pressure increase the pressure in the inferior vena cava that cause these vascular cushions to engorge and prevent leakage. This tissue is also thought to help differentiate stool, liquid, and gas in the anal canal.⁴

Treatment is often divided between non-operative management, office procedures, and surgical management utilizing an operating room.⁵ Sclerotherapy had been used in the office setting prior to ligations for internal hemorrhoid bleeding. Injection of a caustic agent into the submucosa of the hemorrhoid results in diminished vascularity, intravascular thrombosis, and fibrosis. The fibrosis is also believed to result in mucosa fixation and diminish prolapse as well. In grade 1, 2, and 3 hemorrhoids, it is 75 to 89% effective,⁵ but recurrence is seen

in 30% of patients at 4 years.⁶

Rubber band ligation is perhaps the most common outdoor procedure performed as it can be accomplished quickly without anesthesia or a bowel preparation. It is most effective on first- and second-degree internal hemorrhoids and many third-degree hemorrhoids. It is successful in roughly 60% to 80% of patients, but may recur with⁷ Recurrent symptoms often resolve with repeated banding and only 10% will go on to surgical excision.⁸ The advantage of ligations is that it can be performed in an office setting with patients resuming normal activities after treatment.

The present study was conducted to determine if demographic profile is playing any role in the treatment option in the management of second degree haemorrhoid with rubber band ligation & sclerotherapy .

Aims & objectives

1. To find out demographic profile between rubber band ligation & sclerotherapy in the management of second degree hemorrhoid

2 To compare the demographic profile between rubber band ligation & sclerotherapy in the management of second degree hemorrhoid

Methodology

The study was the cohort study conducted on the patients admitted in the surgical wards of all units with clinically diagnosed second degree hemorrhoid.

Owing to ethical considerations, strict confidentiality of data has been maintained and permission has been obtained from Institutional Ethical Committee (IEC) of SMIMER before conducting the study. Informed written consent

would be taken after persuading the participants about the possible benefits/risks and implications of the study.

The duration of study was spread over two and half years. All the patients who were diagnosed with second degree hemorrhoid from July 2012 up to March 2014 were enrolled in the study. The cases were then followed for a period of 6 months from the date of commencement of surgical procedure for the management of second degree hemorrhoid. The last date for the follow-up of case was 30th September 2014 i.e., exactly six months after the last day of period of enrolment of the last case. The data entry was done simultaneously with the enrolment of the cases in the study. The data cleaning and the retrieval of the missing data were done over a period of one month after collection of data. The collected data was analyzed over a one month period in October 2014 and the report writing was completed by end of November 2014.

We have selected a total of 100 patients who were diagnosed with second degree hemorrhoid and in whom the surgical intervention was warranted. The cases were then randomly divided into 2 groups, Group A: Sclerotherapy and Group B: Rubber band ligation. These patients were enrolled in the study after taking written informed voluntary consent after persuading patients with possible benefits/risks of study.

Patients coming to the institute with second degree hemorrhoid and in whom surgical intervention was needed. The inclusion criteria were: Second degree hemorrhoid, No underlying pathology like infection, immunosuppression, anemia, age group above 18 years.

As the study tries to compare whether the surgical procedure sclerotherapy is better than rubber band ligation in treatment of second degree hemorrhoid, known disease or pre-existing disease which can alter the results of the study are excluded from the study. First degree haemorrhoid, Third degree haemorrhoid, Piles situated at all 3 sites Other causes of bleeding per rectum like fissures, Prolapsed piles, External thrombosed piles, Anemia due to other causes, Patients with age below 18 years.

The study was conducted by pretested semi-structured questionnaire. Information regarding socio-demographic profile like age, gender, date of admission were obtained.

The patients were randomly divided into two groups, group A consist of all the patients operated by sclerotherapy and group B includes all the patients operated by band ligation.

Study procedure

Most of the patients of hemorrhoids presented with bleeding per rectum with diagnosed first and second degree piles on proctoscopy. Third degree prolapsed and thrombosed and external piles were excluded. Among these, the cases that were above 18 years of age were selected in the study. All patients were subjected to postoperative follow up with three consultations after surgery. The patients were randomly divided into two groups, group A consist of 50 cases of second degree hemorrhoids operated by Sclerotherapy and group B includes 50 cases of second degree hemorrhoids operated by rubber band ligation procedure.

After taking the written informed voluntary consent for the

procedure, intra-operative finding of type of hemorrhoids and site is recorded.

Sclerotherapy:

This is currently recommended as a treatment option for first- and second-degree hemorrhoids. The rationale of injecting chemical agents is to create a fixation of mucosa to the underlying muscle by fibrosis. Rubber band ligation (RBL) is a simple, quick, and effective means of treating second-degree hemorrhoids and selected patients with third-degree hemorrhoids. Ligation of the hemorrhoidal tissue with a rubber band applied using a Barron's banding gun causes ischemic necrosis and scarring, leading to fixation of the connective tissue to the rectal wall. Placement of rubber band too close to the dentate line may cause severe pain due to the presence of somatic nerve afferents and requires immediate removal. RBL is safely performed in one or more than one place in a single session with one of several commercially available instruments, including haemorrhoid ligatorrectoscope and endoscopic ligator which use suction to draw the redundant tissue in to the applicator to make the procedure a one-person effort.¹⁰

Data analysis

Data management and analysis was done using Microsoft excel and Epi-info software. Double data entry procedure was adopted and digitized data were checked for completeness and consistency. The categorical variables were assessed using Pearson chi-square. Mantel Hanzel Odds Ratio (OR) and corresponding 95% Confidence Interval (CI) were calculated for dichotomous variables. Statistical significance will be measured at 95% confidence interval.

Results & Observations

Total 100 eligible patients included in the study, 50 were operated by Rubber Band Ligation (RBL) method while another 50 were operated using Sclerotherapy. Following table shows comparison of both groups of patients.

Mean age of the patients in RBL group was 49.9 years while mean age in Sclerotherapy was 52 years. However this difference was statistically not significant which indicate that age of the patients in both the groups were same (P value: 0.537)

In RBL group male were 26 (52%) while in Sclerotherapy group male were 25 (50%). This difference was statistically non significant indicating that sex wise distribution is almost equal in both groups.

The data indicate that distribution of parity doesn't differ much.

In RBL group bleeding alcoholics were 23 patients while in Sclerotherapy group it was there in 25 patients. This difference was statistically non significant indicating that alcohol drinking habit was almost similar in both groups.

In RBL group family history of haemorrhoid was present in 35 patients while in Sclerotherapy group it was there in 38 patients. This difference was statistically non significant indicating that family history of haemorrhoid was almost similar in both groups.

Table 1: Bowel habits in the subjects in both types of

surgeries

Bowel habits	Type of procedure				Total (n=100)	%	P value
	RBL (n=50)	%	Sclerotherapy (N=50)	%			
Normal	17	34.0%	15	30.0%	32	32.0%	0.668
Constipation	33	66.0%	35	70.0%	68	68.0%	
Total	50	100.0%	50	100.0%	100	100.0%	

In RBL group bowel habit were normal in 17 patients while in Sclerotherapy group it was there in 15 patients. This difference was statistically non significant indicating that distribution of normal bowel habit is almost similar in both groups.

Table 2: Dietary habits in the subjects in both types of surgeries

dietary habits	Type of procedure				Total (n=100)	%	P value
	RBL (n=50)	%	Sclerotherapy (N=50)	%			
Veg	29	58.0%	31	62.0%	60	60.0%	0.682
Non-veg	21	42.0%	19	38.0%	40	40.0%	
Total	50	100.0%	50	100.0%	100	100.0%	

In RBL group vegetarian patients were 29 while in Sclerotherapy group it was 31 patients. This difference was statistically non significant indicating that presence of dietary habits was almost similar in both groups.

Discussion:

A recent meta-analysis confirmed that fibre supplements moderately improve overall symptoms and bleeding and should be recommended at an early stage. Other lifestyle modifications such as improving anal hygiene, taking hot sitz baths, increasing fluid intake, relieving constipation, and avoiding straining are used in primary care and may help in the treatment and prevention of hemorrhoids, although the evidence for this is lacking. Most large trials and a meta-analysis in 1995 suggest that rubber band ligation is the most effective outpatient treatment for hemorrhoids, with some authors suggesting that up to 80% of patients are satisfied with the short term outcome.¹¹

An Injection sclerotherapy into first or second degree hemorrhoids is an alternative to banding. It has no benefit in large prolapsing hemorrhoids or those with a large external component. It is cheap and easy to perform, but it is less widely used than banding because of the high failure rate. Conservative treatment with fibre supplementation may be as effective as injection Sclerotherapy. Complications with sclerosant are rare but include local infections, prostatitis, portal pyaemia, and erectile dysfunction.¹²

In age analysis this estimation may be higher than actual prevalence because the community-based studies mainly relied on self reporting and patients may attribute any anorectal symptoms to hemorrhoids. In the present study, the proportion of cases in the RBL group was 52% males and 48% females while in the Sclerotherapy group the proportion of male and female cases were equal. In the present study, Sex distribution is not significantly different in both the groups. In the study conducted by J.C. Bernal et al¹³, the proportion of cases in the RBL group was 54.7% male and 45.3% females. In the study conducted by Brahadeeswaran.S M. et al.¹⁴, the proportion of male in RBL group was 76.7% and female is 23.3% while in Sclerotherapy group, the proportion of male was 86.7% and female was 13.3%.

In the present study, dietary habits like eating vegetarian/non vegetarian diet were not significantly different in both the groups. Since shearing action of passing hard stool on the anal mucosa may cause damage to the anal cushions and lead to symptomatic hemorrhoids, increasing intake of fibre or providing added bulk in the diet might help eliminate straining during defecation.

Constipation and prolonged straining are widely believed to cause hemorrhoids because hard stool and increased intra-abdominal pressure could cause obstruction of venous return, resulting in engorgement of the hemorrhoidal plexus. Defecation of hard fecal material increases shearing force on the anal cushions. However, recent evidence questions the importance of constipation in the development of this common disorder.^{58/15}

Many investigators have failed to demonstrate any significant association between hemorrhoids and constipation, whereas some reports suggested that diarrhoea is a risk factor for the development of hemorrhoids. Increase in straining for defecation may precipitate the development of symptoms such as bleeding and prolapse in patients with a history of hemorrhoidal disease. Pregnancy can predispose to congestion of the anal cushion and symptomatic hemorrhoids, which will resolve spontaneously soon after birth. Many dietary factors including low fiber diet, spicy foods and alcohol intake have been implicated, but reported data are inconsistent.

In the present study, the proportion of significant family history in the RBL group was 70% while in the Sclerotherapy group the proportion of significant family history were 76%. In the present study, significant family history was not significantly different in both the groups.

Thus role of demographic profile to determine type of treatment in management of second degree haemorrhoid is not clear & need further study with large sample size.

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