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Original Research Article

Day care management of grade I and II bleeding hemorrhoids

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ABSTRACT

Background: Hemorrhoids occur in up to 80% of the population, involving any age and affecting males and females equally1 First and second-degree hemorrhoids can be treated conveniently on an out-patient basis by sclerotherapy and rubber band ligation 2. This study aims at comparing outcomes of these modalities for the treatment of grade I and II bleeding hemorrhoids.
Methods: In NKP Salve institute of Medical Sciences and Research Centre hospital based nonrandomized comparative study, patients clinically diagnosed as Grade I and II bleeding hemorrhoids were included. Subjects were divided in into two groups i.e Barron's banding and Injection of Sclerosant. The post procedural complications for the first 24 hrs were recorded, follow up was taken at regular intervals and any complications were recorded.
Results: A total of 50 patients were enrolled with mean age 42.01 years and a male preponderance, with 31 males and 19 females. Barron's banding was carried out in 25 subjects and the 25 subjects were subjected to Injection of sclerosant the mean duration taken for Injection of sclerosant was 13.6 min and in Barron's banding 16.4 min. In the first 24hrs post procedural bleeding was observed in 40% subjects in the Barron's banding group and 52% in the injection of sclerosant group. For post procedural pain the mean VAS score in the Barron's group was 1.84 and 0.96 in injection of sclerosant group, follow up at 3rd month showed 16% recurrence of bleeding and 32% in injection of sclerosant group.
Conclusions: Injection of sclerosant is better than Barron's banding procedure in terms of post procedural pain.

Keywords: Barron's banding, Haemorrhoids, Injection of sclerosant

INTRODUCTION

Haemorrhoidal disease is probably one of the oldest ills known to man, perhaps since the time he assumed the upright position.[1] It leads to discomfort, and decreased quality of life. Haemorrhoids are vascular cushions within the anal canal and are ubiquitous.[1,2] The term haemorrhoids is derived from the Greek word haimorrhois meaning flow of blood while the word pile comes from Latin pila meaning a pill or ball thus indicating the two cardinal symptoms namely bleeding and prolapsing mass per rectum. The two terms haemorrhoids and pile have been misused over time, they have been used by the lay people for many condition and symptoms associated with the perianal region, Haemorrhoids are classified into external and internal haemorrhoids, internal haemorrhoids are further classified into first, second, third and fourth degree of internal haemorrhoids.[2,3]

Thickened cushions of mucosa and submucosa appears to the right anterior, right posterior and left posterior with the possible variations and secondary cushions.

Haemorrhoids consist of the venous plexus and the arterial supply embedded in a stroma of connective tissue, smooth muscle and nerves.[4,5] The pathogenesis of haemorrhoids is not yet finally elucidated. However environmental factors like low fibre diet, constipation, repeated and prolonged straining, hard stool, chronic use of laxatives, have been identified to support the development of haemorrhoids.[6,7]

Hippocrates described the treatment of haemorrhoids in 400 BC by the use of cautery and ligation. This enunciated basic principles for surgical treatment of haemorrhoids and all the modern techniques of haemorrhoidectomy are based on the same principal viz ligation and excision of piles. This condition is a common ailment among the adults. More than the men and women aged 50 years will experience haemorrhoid symptoms at least once during their lifetime.[12,13] However, there have been incidences where children and the elderly have also been diagnosed with this condition. Haemorrhoid disease is said to be the fourth leading outpatient gastrointestinal diagnosis, accounting for 3.3 million ambulatory care visits in the United States.[14]

The treatment of haemorrhoids is directed towards eliminating or controlling the symptoms caused by them. Treatment has always been fraught with considerable confusion, and treatment of this common disease with relatively unknown aetiology has been varied, it ranges from fancy applications to medications and suppositories, Both the conservative and operative measures for the symptoms bears testimony to the confusion. Traditional treatment of the haemorrhoids falls into 2 categories, one being less invasive techniques like the rubber band ligation and the injection of sclerosant which tend to produce minimal pain, different techniques like bipolar diathermy, cryosurgery, infrared photocoagulation, haemorrhoid artery ligation are also being used for the treatment of haemorrhoids, there are more radical techniques like excisional haemorrhoidectomy which are inherently more painful.

In this study an attempt was made to study the outcomes of two such modality i.e. rubber band ligation and injection of sclerosant for the treatment of grade I and II bleeding haemorrhoids, thus helping to understand the effectiveness and to assess the better procedure to be done in a day care surgery.

METHODS

This nonrandomized comparative study was conducted in a NKP Salve Institute of medical sciences and Research centre in Central India, over a period of 24 months from September 2016 to October 2018. In this study, 50 patients clinically diagnosed with Grade I and II bleeding hemorrhoid were enrolled. Patients with co-existing anorectal conditions like symptomatic anal fissures/anal fistulas, patients not willing for any treatment were excluded from the study. Various study factors were recorded in the study and were compared, demographic factors like age, gender were recorded, Chief complains of the patient like bleeding per rectum, reducible mass coming out of the anus were recorded along with the duration of the onset. Subjects were allocated the following two interventions i.e. Barron's banding and Injection of sclerosant, Intervention allotted to the patient were based on the choice of the surgeon in a non randomized manner. Subjects were divided into two groups of 25 subjects in each group. Both the procedure were carried out as a day care procedures.

In Barron's banding, protcoscope was introduced into the anal canal and haemorrhoids were visualized. The haemorrhoid was grasped with help of forceps. The haemorrhoidal tissue was pulled into a double-sleeved cylinder and was ligated by discharging bands from the cylinder. Patient was then observed for the next 24 hours for any complications.

In injection of sclerosant an protcoscope is passed into the anal canal for visualization of the haemorrhoids, a lumbar puncture needle (no 23) attached to 5ml syringe loaded with Inj askerol (polidocanol 3%) is passed through the proctoscope and injected into the base of the haemorrhoids, patients were then observed for the next 24 hours for any complications.

The outcome factors present in the study were post procedural outcomes in first 24 hours: These include the following-

Post procedural bleeding: Any episode of post procedural bleeding, 24hrs after the procedure was recorded.

Post procedural pain: Any episode of post procedural fullness or discomfort experienced by the patient within the first 24 hours was recorded.

Pain was assessed for the first 24 hours. by a visual analogue scale (VAS) from 0-10 where 0 meant no complaints of pain and 10 is equal to intense pain.

Follow up of the patients were taken at regular intervals at 1st and 3rd month for any post procedural complications.

Statistical method

A pre-designed proforma was used to record the study factors and data recorded was entered into an excel sheet and analysed using statistical software STATA version 10.1.2011. The data was presented as mean, standard deviation, range and percentage for descriptive statistics of age, gender and clinical manifestations. Comparison of parameters between Barron's banding and injection of sclerosant was done using student t-test, nonparametric for continuous data and chi square test and Fischer test for categorical variables. The statistical software used in

the analysis was SPSS version 20, EPI Info software version 7. Statistical significance was set at p<0.05.

RESULTS

The mean age of the patients was 42.01±16.51 years with a range from 18years to 80 years. On observing decade-wise distribution, haemorrhoids were most commonly observed in the age group of 20-30 years accounting for 22% and 30-40years age group accounting for 20% of the cases. Out of 50 patients, 30 (65%) were males and 20 (35%) were females. Male: Female Ratio was found to be 1.5:1, Bleeding per rectum was the most common complaint given by all 50 (100%) patients, 19 patients (38%) complained of reducible mass protruding per anus, 2 (4%) came with complaint of discomfort while defecation.

On proctoscopic examination around 18 patients (34%) presented with Grade I haemorrhoids and 32 patients (66%) presented with Grade II haemorrhoids (Table 1).

Table 1: Grade wise distribution.

Grade of hemorrhoids	Number of patients	Percentage (%)
Grade I	18	34
Grade II	32	66
Total	50	100

Grade I haemorrhoid were seen at 3 ^{o}'clock position in 13 patients, 7 ^{o}'clock position in 4 patients, and 11 ^{o}'clock position in 6 patients. Grade II haemorrhoid was seen at 3 ^{o}'clock position in patients, 7 ^{o}'clock position in 18 patients and 11 ^{o}'clock position in 13 patients. (Table 2).

Table 2: Position of haemorrhoids.

Position of hemorrhoids	Grade I	Grade II	Total
3 ^{o}'clock	13	6	19
7 ^{o}'clock	4	18	22
11 ^{o}'clock	6	13	19

Out of the 50 patients 25 patients underwent Barron's banding procedure and rest 25 patients underwent injection of sclerosant. In the Barron's banding group 10 patients (40%) developed post procedural bleeding in the first 24 hrs. Similarly in the sclerosant group 13 patients (52%) had post procedural bleeding (Table 3).

Subjects in both the groups were assessed with a visual analogue score for pain which had a scale from 0-10, 0 means no pain and 10 meaning excruciating pain, In the Barron's banding group the mean score was of 3.06 with a standard deviation of 0.67 and in the Injection of sclerosant group the mean score was 2.18 with a standard deviation of 0.71 (Table 4).

Table 3: Comparing post procedural bleeding in the first 24 hrs.

Post procedural bleeding in 24 hrs	Procedure			
	Banding		Sclerosant	
	No.	%	No.	%
Yes	10	40	13	52
No	15	60	12	48
Total	25	100	25	100

x^2=0.7246; P value=0.395; not significant.

Table 4: Comparision of pain by VAS score in both groups.

Procedure	Barron's banding	Injection of sclerosant
Vas score (24 hours)	3.06±0.67	2.18±0.71

Patients were followed up after a period of 1 month to observe for any complaints. Out of the 50 patients who came for follow up 25 patients had underwent sclerotherapy, out of them 3 (12%) patients complained of episodes of bleeding after the procedure, in the Barron's banding group 5 (20%) patients out of 25 patients who came for follow up complained of episodes of bleeding per rectum. In the Barron's banding group 3 (12%) had complaints of discomfort, and in the sclerosant group 2 patients complained of pain in the 1 month period, on 3rd month follow up 4 patients in the banding group had recurrence of bleeding as compared in sclerosant group were 8 patients had the similar complaints. In the banding group 2 patients had complains discomfort while in the sclerosant group 1 patient had this complaints, In the present study procedural time for both procedures were recorded, the time taken for each procedure were noted and were compared, in the Barron's banding group the mean procedural time was 16.44 mins with standard deviation of ±3.84 SD, while in the Injection of sclerosant group mean procedural time was 13.6 mins with standard deviation of ±3.39 (Table 5).

Table 5: Mean comparison of procedural time of both groups.

Procedure	Mean	SD
Banding	**16.44**	**3.84**
Sclerosant	**13.6**	**3.39**

P value: 0.0079; significant.

DISCUSSION

Haemorrhoids arises from congestion of internal or external vascular plexuses around anal canal. They are classified into four degrees based on their severity. A majority of cases of haemorrhoidal disease can be treated by dietary modification, topical medication and warm water bath.

In Grade I & II bleeding haemorrhoids day care procedures can be advised to the patient for relieving of symptoms, these procedures can be carried out as an OPD procedure and thus is routinely done. The present study aims to compare the outcomes of these day care procedure i.e. Barron's banding and Injection of sclerosant.

While evaluating the clinical presentation of the patients in the present study, the most common symptoms on presentation was bleeding per rectum which was present in all the 50 patients, (100%) who participated in the study. This presentation is consistent with different studies seen in the literature. The other symptoms which patient presented initially were constipation with bleeding per rectum which was seen in 80% of the subject group and mass coming out of the anus which was seen in 38% of the subject group, In the study done by Mukhopadhyay et al they observed bleeding per rectum in 91.3% patients, while a study conducted by Jadhav et al, 2016 observed 100% of their subjects with the complaints of bleeding per rectum on initial presentation.

In the present study post procedural bleeding during first 24 hrs. was 40% in Barron's banding group as compared to 52% in Injection of sclerosant group. On subsequent follow up taken at 1 month and 3rd month interval patient in the Injection of sclerosant group had more complaints of recurrence of bleeding (32%) as compared to Barron's banding group were complaints of recurrence of bleeding per rectum was 16%. Outcomes from different studies in literature give comparable results. In a study by Sarmund et al, 56% patients in the Barron's banding group had post procedural bleeding within the first 24hrs as compared to 26% in the injection of sclerosant group. On comparing post procedural pain in the two groups, patients in the Barron's banding group experienced more complaints of pain than the injection of sclerosant group. This can be due to improper placement of the band. Post procedural pain was observed using a visual analogue scale (VAS) scale. On comparing the VAS scores of the two group, mean score in the Barron's banding group was 1.84±1.62 SD as compared to the injection of sclerosant group in which mean score was 0.96±1.20 SD this difference was statistically significant with a p value of 0.034. In a study done by Rahman et al, VAS score (mean) in the rubber banding group was 0.76±0.97.

In present study the mean time taken for banding procedure was 16.44 min with a standard deviation of 3.84, while in injection of sclerosant group the mean procedural time taken was 13.6 min with a standard deviation of 3.39 mins. In a study done by Vaghasiya et al, the mean procedural time for banding procedure was 12 mins as compared to 20 mins taken in the injection of sclerosant group. This can be attributed to the instrumentation and time taken for loading the band while carrying out the banding procedure.

CONCLUSION

This study shows both procedures to be comparable with respect to post procedural bleeding but with terms to post procedural pain injection of sclerosant is better than Barron's banding procedure. In the delayed complications, Barron's banding shows more improvement than the injection of sclerosant group and can be used to treat grade I and II bleeding haemorrhoids in a day care setting.

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