Original Paper

Outcome of Injection Sclerotherapy for First Degree and Second Degree Haemorrhoids– A Study of 50 Cases

Ershad-ul-Quadir M[1], Rahman MM[2], Islam MT[3], Hossain SMS[4]

Abstract

Introduction: Haemorrhoid is the frequent problem in clinical practice of general surgery. Haemorrhoids are dilatation and tortuosity of rectal veins affecting almost 4.5% of the population. Various operative and non operative therapeutic options are in practice to treat haemorrhoids, yet none has been proven cent percent effective. Sclerotherapy is a simple, safe and cost effective procedure that is widely practiced globally to treat haemorrhoids. Many sclerosants are being used with variable efficacies.

Objective: To evaluate the outcome of injection Sclerotherapy in first degree and second degree haemorrhoids.

Materials and Methods: Fifty patients of both gender having haemorrhoids who attended Outpatient Department (OPD) at BNS Patenga from September 2013 to August 2014 were included in this study. On the basis of history, patients were selected for Digital Rectal Examination (DRE) and proctoscopic examination to confirm the diagnosis. Sclerotherapy was repeated at interval of 6 weeks till symptomatic relief was achieved. Maximum 3 sittings of sclerotherapy were given. Patients were followed up at 3 months interval for 1 year.

Results: This prospective study was conducted on 50 cases of first degree and second degree Haemorrhoids. The highest number of patients 21(42%) were in the age group of 21-30 years with majority 38(76%) being male. Male female ratio was 3.16: 1. All the patients presented with painless per-rectal bleeding. Satisfactory results were observed in 29(58%) patients of whom 20(40%) patients were having first degree haemorrhoids and 9(18%) patients were having second degree haemorrhoids. Sclerotherapy was more effective in first degree compared to second degree haemorrhoids patients.

Conclusion: Injecting Sclerotherapy is a suitable office procedure for treatment of haemorrhoids. The method is easy, convenient, cheap, well accepted and comfortable for patient. More or less there are no complications and the result is also satisfactory.

Key-words: Haemorrhoids, Sclerotherapy, Digital Rectal Examination (DRE).

Introduction

Dilation of the internal venous plexus within an enlarged, displaced anal cushion is called haemorrhoids[1]. Causes of haemorrhoids are hereditary or congenital weakness of the vein wall and absence of valves in the rectal veins. Higher anal pressure is also an aetiologic component in the formation of haemorrhoids[2]. Straining at constipation is responsible for increased anal pressure. Persistence of the anorectal band, a remnant of embryological anorectal sinus and failure of rectal neck remodeling are considered responsible for the initiation of the haemorrhoidal disease[3].

Haemorrhoid is a frequently problem in clinical practice of general surgery. Patients do not always need treatment if the symptoms are minimal. Treatment modalities of haemorrhoids are non-operative and operative treatment. In non-operative treatment, bowel movement is regulated by hydrophilic colloids (isogel) and various proprietary creams can be inserted into the rectum from a tube fitted with a nozzle and sitz bath. Procto-scope is the main instrument by which diagnosis is made. Active treatments of haemorrhoids are sclerotherapy, elastic band application (Barron), cryosurgery, photocoagulation, botulinum toxin (botox) injection and operative treatment. Operative treatment is indicated in case of third degree haemorrhoids or in case of failure of non operative treatment of second degree haemorrhoids. Sclerotherapy is indicated in first degree haemorrhoids which bleed and in second degree haemorrhoids. If there is only one haemorrhoid in single position, it may be cured by one injection. If all three sites of haemorrhoids are equally enlarged, each shall be injected separately at one session. Often three sessions at six weekly intervals are required. The clear advantages of the modern methods for outpatient treatment of internal haemorrhoids are that they are less time consuming and procedures are relatively painless. Patients soon return to work, the complications are minor and the cure rate is high.

1. Lt Col Md Ershad-ul-Quadir, MBBS, FCPS, Classified Specialist in Surgery, BNS Patenga, Navy Hospital 2. **Brig Gen Md Mahbubur Rahman**, MBBS, FCPS, Chief Surgeon & Adviser Specialist in Surgery, CMH, Dhaka 3. **Col Md Tanvirul Islam**, MBBS, FCPS, Fellow Colorectal Surgery (NUH, Singapore), Classified Specialist in Surgery, Colon & Rectal Surgeon, CMH, Dhaka 4. **Lt Col SM Shakhawat Hosssain**, MBBS, FCPS, Hepatobiliary Surgeon, CMH, Dhaka.

Materials and Methods

This prospective study was carried out at BNS Patenga during September 2013 to August 2014. All the patients who reported to the surgical outpatient department of BNS Patenga were included in this study. On the basis of history, patients were selected for Digital Rectal Examination (DRE) and proctoscopic examination. Selected cases were instructed to come in the particular day of the week (proctoscopy day) in Surgical Outpatient Department (SOPD). Bowel preparation was done by laxatives for two days prior to the procedure. During the procedure, the patients were placed in left lateral position. Full length proctoscope was passed into anal canal and rectum, withdrew slowly to identify the anorectal junction. Positions of the right anterior, right posterior and left lateral haemorrhoids were identified. By a disposable syringe, 3-5 ml of 5% phenol in olive oil was injected into the submucosa at base of each haemorrhoid to produce a swelling with a pearly appearance of the mucosa. Injection sites were pressed with cotton to minimize leakage. A predesigned proforma was used to collect the relevant data. Treatment outcome of the patients were considered satisfactory when the patients became asymptomatic after sclerotherapy.

Results

Among 50 patients, age distribution showed that highest number of the patients 21(42%) were in the age group of 21-30 years. This was followed by the 16 (32%) patients who were in the age group of 31-40 years (Table-I).

Table-I: Distribution of patients according to age group (n=50)

Age group (years)	Number of patients	%
11-20	5	10
21-30	21	42
31-40	16	32
41-50	8	16
Total	50	100

Out of 50 patients 38(76%) were male and 12(24%) were female. Male female ratio was 3.16:1 (Table-II).

Table-II: Distribution of patients according to sex (n=50)

Sex	Number of patients	%
Male	38	76
Female	12	24
Total	50	100

All the patients presented with painless per-rectal bleeding. Constipation was present in 42(84%) cases (Table-III).

Table-III: Clinical presentation of the patients (n=50)

Clinical Presentation	Number of patients	%
Per rectal bleeding	50	100
Discomfort	10	20
Constipation	42	84

Majority of the patients (50%) were doing sedentary job. Fifteen patients (30%), serving in the naval ship. During the sea journey they had constipation followed by per-rectal bleeding associated with discomfort in the anal region (Table-IV).

Table-IV: Distribution of patients according to the nature of job (n=50)

Nature of job	Patients	%
Sedentary job	25	50%
Working in closed congested space (naval ship)	15	30%
Job of prolonged standing, heavy work, weight lifting etc	10	20%
Total	50	100%

Out of 50 patients 28(56%) were having first degree haemorrhoids and 22(44%) patients were having second degree haemorrhoids (Table-V).

Table-V: Distribution of patients according to the type of haemorrhoid (n=50)

Type of haemorrhoids	Number of patients	%
First degree haemorrhoids	28	56
Second degree haemorrhoids	22	44
Total	50	100

After the procedure only 2(4%) patients had bleeding which was stopped by anal pack. One patient developed infection which was controlled by antibiotics (Table-VI).

Table-VI: Complications of sclerotherapy

Complication(s)	Number of patients	%
Bleeding	2	4
Prostatitis	Nil	0
Infection	01	2
Ulceration	Nil	0

Out of 50 patients satisfactory results were observed in 29(58%) patients of whom 20(40%) patients were having first degree haemorrhoids and 9(18%) found to be having second degree haemorrhoids (Table-VII). Sclerotherapy was observed more effective in patients with first degree haemorrhoids ($p<0.001$) when compared to second degree haemorrhoids patients.

Table-VII: Satisfactory results of injection sclerotherapy

Type of haemorrhoids	No of Patient	Results	X^2	P
First degree haemorrhoids	20	Satisfactory	19.86	<0.001
Second degree haemorrhoids	09	Satisfactory		

Discussion

In this study, constipation was observed in 42(84%) patients. Johanson JF and Sonnenberg A studied 168 patients of haemorrhoids and no significant association was observed between constipation and haemorrhoids[4]. In the study constipation was observed in most of the cases (84%) probably because of food habit of the patients that is less intake of fiber containing diets. Constipation causes high internal anal pressure. So constipation is definitely related to the aetiology of haemorrhoids.

Haemorrhoids are frequently observed in three groups at 3, 7 and 11 o'clock positions with the patients in lithotomy position. Haemorrhoids that bleed but do not prolapse outside the anal canal is called the first degree haemorrhoids. Haemorrhoids that prolapse on defaecation which are reduce automatically or need to be reduced manually and then stay reduce are called second degree haemorrhoids. Third degree haemorrhoids remain permanently prolapsed. In this study the age incidence of haemorrhoids was more in the third and fourth decade with male predominance (M:F=3.16:1). Rhee JC studied 970 cases of haemorrhoids and anal fissure, where author observed that the patients were mostly in and around 30 years of age which is comparable with this study[5]. There was no sex pre-dominance in Rhee JC's study.

Bleeding is the principal and earliest symptom of haemorrhoids. Other symptoms are prolapse, discharge of mucous, pruritus ani, local pain and very rarely anaemia. Prolapse is a much delayed symptom. Local pain is absent unless there is complication like strangulation and thrombosis. In this study bleeding was observed in all the patients (100%) and anal discomfort was present in 10(20%) patients.

This study also revealed that out of 50 patients, 25(50%) patients were engaged in sedentary job, 15(30%) patients were working in the closed congested places in the naval ships and remaining 10(20%) patients were engaged in job for prolonged standing, heavy work and weight lifting etc. Above conditions (prolonged standing, weight lifting, working in closed congested places) cause increased anal canal resting pressure as well as raised intra abdominal pressure. According to Williams NS and Bulstrode CJK, there is definite association between raised anal resting pressure and haemorrhoids[1]. Deutsch et al studied the relationship between resting anal pressure to hemorrhoid etiology in 38 patients with 29 controls that showed that higher pressures are an etiologic component in the formation of hemorrhoids[6].

Immediate complications of sclerotherapy are bleeding, local pain, ulceration, prostatitis in case of male, if injection is too deep and anterior. Prostatitis should be treated immediately with antibiotics. There may be late complication like fibrosis with anal stenosis. In this study immediate complication in the form of bleeding was observed in only 2(4%) cases. In this series not a single patient was observed to be anaemic due to haemorrhoidal bleeding. In Kluiber RM series incidence of haemorrhoidal bleeding that caused anaemia was found to be in 5 patients per 100,000 populations per year[7]. In this study satisfactory results were observed in 20 (40%) cases of first degree haemorrhoids and in 9(18%) cases of second degree haemorrhoids ($p<0.001$). Johanson JF and Rimm A treated 863 patients with sclerotherapy, rubber band ligation, infrared coagulation and results demonstrated that similar number of patients were asymptomatic 12 months after treatment[8]. Zinberg et al concluded that three nonoperative techniques Infrared photocoagulation, Heater probe coagulation and Ultroid d.c current therapy are effective modalities for first and second-degree haemorrhoids[9].

Conclusion

Prevention is the best treatment for haemorrhoids. Diets high in fiber and bulk can prevent constipation. If the diet cannot be modified in this way, adding bulk laxatives may be necessary, they can prevent worsening of the condition. There are numerous creams and suppositories that can relieve anal irritations and pain but they rarely provide long term benefit. Sclerotherapy is an active method of treatment of first degree and second degree haemorrhoids. The method is easy, convenient and cheap. It can be done at outpatient department. The method is well accepted and comfortable for the patient. Virtually there is more or less no complication, no loss of work and the result is also satisfactory.

References

1. Mann CV, Russell RCG. Bailey and love's short practice of Surgery. 25th ed London: Chapman and Hall, Edward Arnold 1995 and 2008:1253-58.

2. Kirk RM. General surgical operations. 5th ed. London: Churchill Livingstone 2008:353-8.

3. Shafik A. A concept of the anatomy of the anal sphincter mechanism and the physiology of defecation. *Dis Colon Rectum* 1987; 30(12):970-82.

4. Johanson JF, Sonnenberg A. Constipation is not a risk factor for hemorrhoids: A case-control study of potential etiological agents. *Am J Gastroenterol* 1994; 89(11):1981-6.

5. Rhee JC, Lee KT. The causes and management of lower GI bleeding: a study based on clinical observations at Hanyang University Hospital. *Gastroenterol Jpn* 1991; 26(Suppl 3):101-6.

6. Deutsch AA, Moshkovitz M, Nudelman I et al. Anal pressure measurements in the study of hemorrhoid etiology and their relation to treatment. *Dis Colon Rectum* 1987; 30(11):855-7.

7. Kluiber RM, Wolff BG. Evaluation of anemia caused by hemorrhoidal bleeding. *Dis Colon Rectum* 1994; 37(10):1006-7.

8. Johanson JF, Rimm A. Optimal nonsurgical treatment of hemorrhoids: a comparative analysis of infrared coagulation, rubber band ligation and injection sclerotherapy. *Am J Gastroenterol* 1992; 87(11):1600-6.

9. Zinberg SS, Stern DH, Furman DS, Wittles JM. A personal experience in comparing three nonoperative techniques for treating internal hemorrhoids. *Am J Gastroenterol* 1989; 84(5): 488-92.