

Effectiveness of Retrograde Endoscopic Sclero Therapy (REST) for treatment of internal hemorrhoids

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ABSTRACT

Background: Hemorrhoids are recognized as a very common cause of rectal bleeding and anal discomfort. Therapeutic treatment of hemorrhoids needs to be tailored according to grades and complication of hemorrhoids, patient preference and expertise of procedure. Very limited data is available regarding effectiveness of retrograde endoscopic injection sclerotherapy for the management of bleeding hemorrhoids.

Aim: To study the effectiveness of retrograde endoscopic injection sclerotherapy (REST) for treatment of various grades of bleeding internal hemorrhoids.

Methods: A prospective study, conducted over a period of 18 months from Jan 2012 to June 2013 included 43 patients with various grades of bleeding internal hemorrhoids. They were subjected to retrograde endoscopic injection sclerotherapy using polidocanol to study its effectiveness in controlling bleeding. Effectiveness of the procedure was defined by stoppage of bleeding at 3 months follow up.

Results: Bleeding stopped in 95.3% cases after retrograde endoscopic injection sclerotherapy at 3 months follow up. No significant complications were observed with the procedure during study period.

Conclusion: Retrograde endoscopic sclerotherapy (REST) is a safe, well tolerated, and effective modality for management of bleeding internal hemorrhoids.

Keywords: hemorrhoids treatment, endoscopic sclerotherapy, retrograde sclerotherapy

INTRODUCTION

Internal hemorrhoids are the commonest cause of rectal bleeding in adults but are uncommon in children.^{1, 2, 3} The definite diagnosis of hemorrhoidal disease is based on a precise patient history and careful clinical examination. The mucocutaneous junction of the ano-rectum, or dentate line, divides hemorrhoids anatomically into internal (above the junction) and external (below). Internal hemorrhoids have been staged or graded on the basis of their severity. The classification of Banov et al is based on the degree of hemorrhoidal prolapse during defecation.⁴

A third of these patients with bleeding hemorrhoids require treatment which needs to be tailored according to grades of hemorrhoids, patient preference and expertise of procedure.¹ The emphasis these days is towards more conservative, newer and scopic out patient

therapies for treating hemorrhoids. Primary goal of all forms of therapy is to achieve fibrosis and obliteration of bleeding vessel. Broadly grade 1 and 2 hemorrhoids are treated with non operative treatment in the form of dietary modification, injection sclerotherapy (IST), endoscopic rubber band ligation (RBL), bipolar diathermy, direct current electrotherapy, heater probe coagulation or infrared coagulation.^{1,2} Nonsurgical approaches are successful in 80%–99% of patients with hemorrhoidal issues, but in non responders, surgery can be contemplated. Surgical hemorrhoidectomy is more effective than RBL in the treatment of grade III hemorrhoids but incurs additional complications, pain, and disability. Numerous studies have been conducted to evaluate and compare different treatment modalities for hemorrhoid disease; the results have been inconsistent.

Injection sclerotherapy is one of the simple, safe, and non surgical treatments of bleeding hemorrhoids in adults.^{2,3} Injection sclerotherapy using the rigid proctoscope has limited manoeuvrability, has a narrower field of view with less preciseness of injection, leads to more discomfort at introduction and does not allow adequate documentation in contrast to the flexible video endoscope.¹

Video endoscopic sclerotherapy is found to be a safe, well tolerated and effective treatment of bleeding internal haemorrhoids.¹ Till date, only a few studies have demonstrated effectiveness of endoscopic injection sclerotherapy for treatment of bleeding internal haemorrhoids.^{1,5,8} Endoscopic sclerotherapy can be performed in both antegrade and retrograde fashion with previous reports favouring retrograde approach than antegrade approach.¹ The present study was conducted to assess the effectiveness of retrograde endoscopic sclerotherapy (REST) for treatment of various grades of bleeding internal haemorrhoids.

MATERIALS AND METHODS

The present study was conducted at Gastroenterology outpatient department of Medical College, Dehradun over a period of 18 months. 43 patients with symptoms of bleeding per rectum of 6 to 10 months duration, diagnosed to have grade 1 to 3 bleeding hemorrhoids, after taking written consent, were included in the study. A detailed general and systemic examination was done in all patients to rule out any co morbid conditions.

After a thorough perianal and proctoscopic examination to rule out anal fissure, fistula or skin tags and to ascertain the degree of haemorrhoids, all patients underwent colonoscopy with flexible video colonoscopy to rule out any luminal source of bleeding. The colonoscopy was done under conscious sedation or general anaesthesia depending upon age of the patient and tolerability of the procedure.

In every patient after completing the colonoscopy a standard gastro scope with 9.2 mm diameter was used for the procedure. The instrument was introduced in the rectum for 8–10 cms and then retroflexed by turning the tip of the instrument upward and simultaneously, gently advancing and torquing the endoscope in counter-clockwise fashion. This was done to have a clear view of the dentate line, hemorrhoids and relationship of hemorrhoids to the dentate line. The number of columns, size, cherry red spots and presence of venous channel proximal to the hemorrhoids was noted in all patients. A standard 23 G, 160 cms endoscopic sclerotherapy catheter pre flushed with the diluted sclerosant was used for injection. With endoscope in the retroflexed position, the haemorrhoid complexes were viewed in retrograde fashion (from above) and the endoscope manoeuvred to facilitate precise placement of the injection needle in the proximal portion of the haemorrhoidal column above the dentate line.

Once appropriate placement was apparent, the tip of the injection catheter was then slightly pushed out of the working channel, the needle extended, and injections commenced.

4.0 to 8.0 ml of 2% polidocanol was directly injected into each of the haemorrhoid columns, depending upon the size of the haemorrhoid. Care was taken to inject the sclerosant inside the haemorrhoid and not in parahaemorrhoid location. The end point of each injection was to achieve complete blanching of the column. All columns were injected in a single sitting, one after the other, by rotating the scope in anal canal. At the end of the procedure, insufflated air was suctioned so as to reduce abdominal distension. Patients were advised Sitz bath twice a day and stool softeners for one week after the procedure.

All the study subjects were initially asked to come for follow up after 2 weeks. Patients were subjected to a repeat procedure (2nd session) if the first session did not achieve complete cessation of bleeding at 2 weeks follow up and then again at 4 weeks (3rd session) if still symptomatic. Patient was considered as treatment failure, if the bleeding could not be completely controlled even after 3rd session of REST. All the study subjects were subsequently followed up for a period of 3 months. The success of the sclerotherapy procedure was defined by cessation of bleeding at 3 months follow up.

RESULTS

Mean age of the patients included in the study was 35.3 years. Out of 43 patients 37 were male and 6 females; with 6 (13.9%), 26 (60%) and 11 (25.6%) of grade 1, 2 and 3 bleeding haemorrhoids respectively

All patients in grade 1 did not require repeat procedure on follow up. Twenty four patients (92%) in grade 2 and 6 (54 %) in grade 3

responded to single session of REST. The maximum number of sessions required to stop haemorrhoidal bleed was two sessions in grade 2 haemorrhoids and three sessions in grade 3 haemorrhoids. Two patients of grade 2 who did not respond to first session of REST responded to second session. Of the remaining 5/11 patients with grade 3 haemorrhoids, 3 patients responded to two sessions and one responded to three sessions of sclerotherapy. Two patients were considered as treatment failures. One did not respond to three sessions of sclerotherapy and was considered as treatment failure. Even this patient although had almost 75 % reduction in bleeding was referred for surgery. Another patient who had initially responded to the procedure has break through bleeding by the end of 3 months follow up period. This trend continued till 6 months follow up (although not a part of study protocol).

Only one subject experienced severe pain after the procedure, requiring analgesics, presumably due to extravasations of sclerosant distal to the dentate line. She responded within one week of treatment with sitz baths, local application of anaesthetic jelly besides oral administration of analgesics. None of the other subjects experienced any significant side effects.



Fig.1. Haemorrhoid retroflexed view

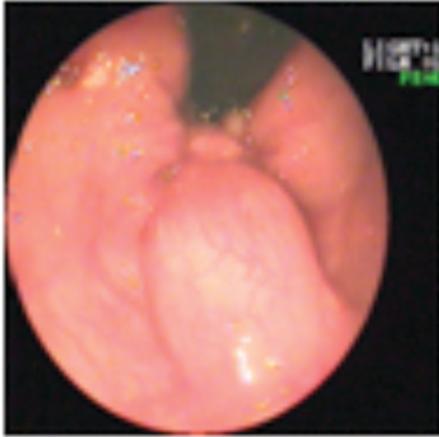


Fig.2. Post sclerotherapy

DISCUSSION

The success rate of conventional injection sclerotherapy using rigid proctoscope is from 60 to 90%.⁹ The present study demonstrates that REST achieved even higher success rates in controlling haemorrhoidal bleeding. Overall success rate of the procedure in present study was 95.3%. Majority of patients responded to a single session in all the grades of hemorrhoids (100% in grade 1, 92 % in grade II and 54% in grade III). Success rate of procedure after two sessions was 95.3%. All but two responded to two sessions in stopping bleeding.

When performing a flexible colonoscopy to evaluate a patient with anorectal issues, partial deflation in retro flexion, allows the hemorrhoidal tissue to become more obvious and easier to characterize.² The reason for overall good response with REST is due to preciseness of the site of injection and adequacy of the amount of sclerosant injected into the hemorrhoid, guided accurately by endoscopic vision.

The data on injection sclerotherapy of internal hemorrhoids although sparse, does not reveal any difference in the success rates depending

upon the type of sclerosant used.^{1,5-8} Ponsky *et al*, reported excellent results with 23.4% saline in 19 patients with symptomatic grade 1 -3 hemorrhoids.⁵ Alatise *et al*, achieved 100% results with endoscopic hemorrhoidal sclerotherapy using 50% dextrose.⁸ Nijhawan *et al*, although used both antegrade and retrograde techniques for endoscopic sclerotherapy concluded better results with retrograde technique than antegrade technique.¹ Better visualization of the site of injection and adequacy of amount of sclerosant injected therefore appears to be the key determinants in achieving high success rates in controlling bleeding and alleviating complications, which are best achieved with REST.

REST was found to be a safe procedure in this study when compared with conventional sclerotherapy. Comparing rubber band ligation with injection sclerotherapy (IST) in a study done in 2012, IST was the treatment of choice for grade 1 haemorrhoids while, there was no statistical difference between rubber band ligation (RBL) and IST for second degree haemorrhoids.¹⁰ Another study found electro coagulation to be more effective and safe for treating haemorrhoids as compared to IST but was more painful.¹¹

Literature search did not reveal data available to compare REST with conventional sclerotherapy. Our study reports a good response (95.3 %) with REST using polidocanol in terms of stoppage of bleeding in various grades of bleeding hemorrhoids at 3 months follow up.

CONCLUSION

REST is a safe, well tolerated, and effective modality for management of grade 1 -3 bleeding internal haemorrhoids.

AUTHOR NOTE

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