International Journal of Enhanced Research in Medicines & Dental Care
ISSN: 2349-1590, Vol. 3 Issue 1, January-2016

Sclerotherapy: A Painless & Safe Treatment for Early Hemorrhoids in Day Care Surgery; Our Experience in CRGH, Ujjain (M.P.)

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ABSTRACT

Objective: To evaluate the efficacy of sclerotherapy for hemorrhoids in day care surgery. Sclerotherapy is a painless, safe and successful procedure.

Place and Duration of Study: This study is conducted in Department of General Surgery, CRGH, UJJAIN (M.P.) for one year. The choice of procedure depends on the patient's symptoms, the extend of the hemorrhoids disease and the experience of the surgeon along with the availability of the technique/ instruments.

Materials and Methods: This is a prospective study done for 1 yr. Total number of 52 patients was included in the study. Sclerotherapy was performed through a proctoscope and sclerosiding agent. Patients excluded were with coagulopathy disorders, fissure in ano and anal ulcer.

Results: It is an Out Patient Department (OPD), non-surgical, ambulatory, painless and bloodless procedure, without any hospital stay. Early recovery and minimal recurrence of hemorrhoids were noted without any morbidity or mortality. We have studied 52 patients, treated with sclerotherapy on OPD basis. Other procedures were required in few patients in whom sclerotherapy failed or was contraindicated. Out of the total 52 patients, 44 came for follow up. After the 1st sitting of sclerotherapy: out of 44; 28 patients got a total relief & 8 cases didn't come for follow-up. In the 2nd sitting, out of 16; 9 patients got total relief, 7 cases undergoes other procedures as there was no relief from bleeding after giving two sittings of sclerotherapy. Our opinion is that, in 7 cases, patient might have not followed the instructions properly for dietary habits.

Conclusion: Sclerotherapy is a safe, simple and effective procedure for early hemorrhoids without any complication. It is now a days the second leading treatment for hemorrhoids. Sclerotherapy is a better option than the surgical treatment as it is easy, well tolerated, and remarkably complication-free. In our study, we have not used any course of antibiotics. In the management of early hemorrhoids, sclerotherapy should be considered as a simple trouble-free and painless option.

Keywords; Day care surgery, Hemorrhoid, Non-surgical, Sclerotherapy.

INTRODUCTION

Hemorrhoids arise from the engorgement of the submucosal anal cushion, which is made up of an interlacing arteria-venous hemorrhoidal plexus, supported by connective tissue and minute muscle fibers [1]. These are one of the frequently occurring diseases that should be treated as early as possible. The most commonly used treatment options are injection sclerotherapy, rubber band ligation, surgery, etc., but non-surgical modalities such as sclerotherapy reduces the post-operative pain, so is frequently used now a days. Sclerotherapy is one of the latest Out Patient department (OPD), safe, easy, short duration procedure with early recovery. The first surgical treatment was described in the Hippocratic treatise of 460 BC and suggested to transfix them. Sclerotherapy is a method of using sclerosants to cause varicose vein in the process of fibrosis and sclerosis. It gives results that are comparable to the other treatment options with the avoidance of surgery. In our study, patients treated with scleroptherapy came out with good results.

AIMS AND OBJECTIVES

The aim of this study was to assess complications and long-term outcome of sclerotherapy to make patients symptom-free and decide whether sclerotherapy can be used as an alternative to the other treatment options. It can also be used in complicated cases where surgery remains contraindicated. It is a non-invasive procedure for Ist and IInd grade symptomatic hemorrhoids.

MATERIAL AND METHODS

The study was carried out prospectively for 1 year. The total number of patients selected was 52, diagnosed as Ist and IInd grade hemorrhoids based on history and clinical examination, including proctoscopy. 36 patients had Ist grade and the remaining 16 had IInd grade hemorrhoids. Out of the total 52 patients, all received conservative treatment but failed to respond. All patients goes through sclerotherapy treatment. The age criteria included was 19 to 80 years.

Table 1: Grade Distribution

S. No	Grade	Total patients	Percentage
1.	Grade I	36/52	69%
2.	Grade II	16/52	31%

PROCEDURE

Once a diagnosis of haemorrhoids is made, the patient is asked to present themselves to the outpatient department where the procedure is carried out. Prior to the procedure, patients may have a course of laxatives or enemas to empty the bowels. This allows clear visualization of all the hemorrhoids, helping the doctor perform sclerotherapy accurately.
Consent of the patient is obtained and the benefits and risks are explained. The patient is placed in left lateral decubitus position so that the piles can be visualized clearly. Before the procedure, the doctor treats an antiseptic hand - an alcoholic solution of chlorhexidine and then processed the skin around the anus, with the same solution. Local 5% xylocaine jelly was applied over the anus and proctoscope, which reduces the sensitivity of the area and facilitates the passage of the proctoscope.

Once the haemorrhoids in visualized and identified, the tip of the needle at the same time should be inserted in the submucosal layer of the rectum. Depending on what size of haemorrhoid, is introduced into the lumen of 0.5 to 2 ml of sclerosant. Once the sclerosing agents have been injected into the piles, they irritate the tissue and the blood vessels resulting in a great degree of inflammation within each pile. This inflammation promotes shrinkage of the piles which eventually dry up and fall off.
This shrinkage is also called as atrophy. In hemorrhoids, inflammation and swelling are the most prevalent features and sclerotherapy targets both of these in a safe and effective manner. During the injection, patients may feel slight amount of discomfort which is due to the needle itself. The entire procedure can take 10 to 15 min, though sometimes it may take a bit longer if further injections need to be carried out. Some patients may experience pain after the procedure which can last a lot longer than a day. Painkillers are advised in such a situation.

To avoid the pain after the procedure, the drug should not be administered in more than two hemorrhoidal nodes. If necessary, repeat the procedure in 14 - 21 days after the previous one. If the solution is introduced too deep in the muscular layer of the bowel, the patient experience a sharp pain. In such case, the introduction of the drug is stopped.
After the procedure, the patient should be for about an hour to be in the OPD, sitting or standing. If he has not observed any negative effects, the patient can safely go home and lead a normal life. In this case, it does not have any physical limitations in the work, except 2-3 weeks are recommended to limit the heavy lifting. After 2 weeks, the patient should again come to the OPD, the doctor can assess the effectiveness of the treatment and decide on its continuation or termination.

Exclusion Criteria

Patients excluded were with coagulopathy disorders, fissure in ano, and anal ulcers. Those patients diagnosed as grade III and IV hemorrhoids were also excluded, except for those who were not fit for surgery. Patients were followed up for 4-5 months.

RESULTS

Sclerotherapy can be considered a safe, painless and simple OPD procedure for the treatment of hemorrhoidal disease with excellent long-term results. It is a bloodless, non-surgical procedure with early recovery and minimal recurrence. Surgery was required in some patients in whom sclerotherapy failed or was contraindicated. Out of the total 52 patients, 44 came for follow up. After the 1st sitting of sclerotherapy therapy: out of 44; 28 patients got a total relief. In the 2nd sitting, out of 16; 9 patients got a total relief. However 7 were operated as there was no relief from bleeding after giving two sittings of sclerotherapy (Table 2). Our opinion is that, in the above 7 cases, the patient might have not followed the proper instructions for dietary habits.

Table 2: Outcome of Sclerotherapy

S. No	Sequence	Total No. Of Patients	Percentage
1.	Undergoes Sclerotherapy	52	100%
2.	Comes for follow up	44/52	85%
3.	Relief after 1st sitting	28/44	64%
4.	Relief after 2nd sitting	9/16	56%
5.	Undergoes surgery	7/44	16%

DISCUSSION

The history of ligation of the pile mass is quite old. Hemorrhoids are now a days a common problem worldwide. The word hemorrhoids [haima =Blood: rhoos = flowing], derives from the Greek adjective, hai. Hemorrhoids are the clinical manifestation of the downward disruption of normal functional structures known as the anal cushions. In 1975, Thomson published his master's thesis based on anatomic and radiologic studies and introduced the term vascular cushions [2-3].

There are different types of treatment options for hemorrhoids, both operative and non-operative. Sclerotherapy can provide adequate treatment of early internal hemorrhoids [4-5]. Sclerotherapy is a non-surgical, medical procedure commonly used for Ist and IInd grade hemorrhoids and also in grade III cases which remain unfit for surgery. When injected into a vein sclerosing agent it interacts with the inner surface of the vein, which is lined with so-called endothelium. As a result, starts an inflammatory reaction, fibrosis, and sclerosing Vienna. Sclerosing agents that are commonly used include 5% phenol in almond oil, polidocanol, aluminium potassium sulphate and tannic acid (ALTA). Sclerotherapy is not only used in the management of piles but is also used in treating conditions such as varicose veins and oesophageal varices (dilated blood vessels in the lower part of the oesophagus).

In 1995, Mac Rae declared that Rubber band ligation (RBL) should be the optimal treatment for 1st, 2nd, and 3rd grade hemorrhoids [6]. Sclerotherapy causes less pain than Rubber band ligation. Rubber band ligation should be mainly used for internal IInd grade hemorrhoids, and sclerotherapy is indicated to decrease acute bleeding, but in the long-term, this method has the poorest results. Sclerotherapy has its good results in internal Ist & IInd grade hemorrhoids because it causes less pain and complications and patients accept it better [7]. Recent studies concluded that both Rubber band ligation and sclerotherapy are best methods for the internal hemorrhoids; in addition, both procedures had relatively minor complications [8].

However, in sclerotherapy, the hemorrhoidal veins shrink and cause little pain and in most of the cases, it is entirely painless. In our study, 4-5 months of follow up was done. We have documented the outcome, the patient's response (complete relief of symptoms versus no change in symptoms), requirement of re-treatment and complications like bleeding and pain. In sclerotherapy two out of all three of the internal hemorrhoids, can be treated in one session and can be repeated two to three times with therapeutic window of 14-21 days without encountering any complications.

Patients should be told about the early signs of complications like the onset of pain, with or without fever, with urinary symptoms. Antibiotic prophylaxis with metronidazole is recommended as a prescription painkiller of class 1 or 2, but we did not give any antibiotics except for analgesics for two days [9]. The complications can be decreased by using a proper technique and making office treatment for first to third grade hemorrhoids tolerable and satisfying [2]. Of course, like all other methods of hemorrhoid treatment, sclerotherapy is not without disadvantages and possible complications. This may be a pain, inflammation of the tissue surrounding the rectum - abscess, education oleogranulemy (Seal soft tissue).

Side Effects to the Technique:

- **Bleeding**. Bleeding immediately after the injection can usually be associated with arterial puncture, which is suitable for hemorrhoidal node. This bleeding is usually easy to stop, pressing tupferom site. Bleeding in the late period may be due to the introduction of too large a solution or a solution to the introduction of the mucosa, rather than under it. This leads to a 1 - 2 weeks ulcers, from which is bleeding.
- **Pain**. Although the pain and discomfort after sclerotherapy is common, pain is almost, always associated with the wrong technique of sclerotherapy (often with the wrong place infusion). Injection of sclerosant to be held above the dentate line, which separates the anal canal from the rectum. In some cases, even when the place of injection solution is chosen correctly, the sclerosant can spread below the dentate line in the sensitive tissues. Therefore, as soon as the patient feels pain, the injection should be immediately discontinued. It should be remembered that the pain within 1-2 days after sclerotherapy - a common phenomenon and it is easily stopped by pain medications.
- **The introduction of sclerosant into the vein**- If the doctor feels that the solution is injected too easy or the patient noted pain in the liver or an unpleasant taste in your mouth, it means that the needle hit the anal vein and the injection should be immediately discontinued. This complication is not considered harmful to the body, despite the fact that the solution came in the bloodstream.
- **The introduction of sclerosant into the prostate**- Such a complication is possible in the event that the procedure is carried out sclerotherapy in a patient, a man suffering from BPH, the prostate gland when enlarged in size. Depending on how much solution was introduced into the prostate, and in what department, the severity of complications may range from slight to severe:
- **Retention of urine-** This is the most common complication of injection of sclerosing solution into the prostate. Typically, the solution in the prostate tissue dissolves itself, although some patients require the introduction of the urinary catheter.
- **Infertility-** If you accidentally hit the solution in the seminal vesicle with its subsequent spread to the testicle, its function is greatly disturbed.
- **Prostatitis-** This is an inflammation of the prostate and is a manifestation of his frequent urination, pain and burning sensation when urinating, as well as an admixture of blood or pus in the urine.
- **The formation of an abscess-** In too deep penetration of the needle into the prostate tissue can develop an abscess - a purulent inflammation.

Nearly 4 out out of 5 patients complaint of bleeding just after procedure, but that’s normal and 3 out of 44 (7%)reported bleeding after 1 week. 35 patients (80%) after sclerotherapy reported pain and within a few days the pain disappear and only 1 patient (2%) complaint of urine retention but no catheterization is required.

Table 3: Complications of Sclerotherapy

S No.	Complications	Total no. of Patients	Percentage
1.	Bleeding (after 1 week)	3/44	7%
2.	Pain	35/44	80%
3.	Sclerosant into the vein	-	-
4.	Sclerosant into the prostate	2/44	4.5%
5.	Retention of urine	1/44	2%
6.	Infertility	-	-
7.	Prostatitis	-	-
8.	Formation of an abscess	-	-

In total, for Ist and IInd grade hemorrhoids, the practitioner has a wide range of choice and can choose an expertise treatment. In prolapsed IIIrd grade hemorrhoids, only the elastic ligatures have proved effective in three quarters of the cases [10.]

Studies reported a patient who underwent submucosal injection sclerotherapy for hemorrhoids and presented with necrotizing fasciitis of the anorectum, perianal region and scrotum. Post-operatively, the patient developed septicemia and renal failure requiring an extended hospital stay [11]. Septic complications following both conservative and surgical treatment of hemorrhoids are rare but may be catastrophic. Immunological compromise poses an additional risk for many treatment modalities[12]. Patients should be informed about early signs of cellulitis like pelvic pain, urinary and anorectal problems.

ADVANTAGES

- Quite cheap and simple method and can be applied on an outpatient basis. This method does not require anesthesia or expensive long stay in hospital.
- The effect of sclerotherapy shows quickly and lasts a long time. After approximately 7-10 days after the procedure, shrunken hemorrhoids fall off during normal defecation.
- Sclerotherapy can be used in elderly patients, the veins are usually fragile and brittle.
- During one session of sclerotherapy can handle multiple hemorrhoids.

DISADVANTAGES

- A large failure rate of the method for very large hemorrhoids, so in this case, we recommend using ligation of nodes with latex rings.

CONTRAINDICATIONS

- **Acute phase nodes**- The method of sclerotherapy is not recommended for third-degree hemorrhoids because of the risk of thrombosis nodes.
- **The large size of hemorrhoids**- The effectiveness of sclerotherapy is quite low.
- **Pronounced bleeding**- When combined with other hemorrhoid disease of the rectum, such as inflammatory diseases (Crohn's disease or ulcerative colitis), sclerotherapy can cause pronounced bleeding or ulceration of the mucosa of the colon.
- **Anal fissures or fistulas-** These states are also contraindications for sclerotherapy.
- **Combined hemorrhoids-** when there is no boundary between the external and internal hemorrhoids.

CONCLUSION

Sclerotherapy is easy to implement, an ambulatory treatment for hemorrhoidal disease. Sclerotherapy is one of many final resort solutions to a problem that is estimated to affect three out of four people at some time during their life. The result is considered satisfactory if the loss of nodes has stopped, but retained a slight discharge of blood in the stool. Relapse, continued bleeding or loss of nodes are regarded as an unsatisfactory result of the procedure. Note that the best results are obtained by sclerotherapy in patients with early stages of hemorrhoids, when the main symptom of the disease - is bleeding from the anus. The effectiveness of sclerotherapy in the third and fourth stages of hemorrhoids is markedly reduced. Ist & IInd grade hemorrhoids can be managed non-operatively. We did not encounter any complications. Sclerotherapy should be considered as a simple trouble-free, safe, non-surgical and outdoor option.

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