A Study of Clinical Features and Presentation of Patients with Grade I & II Haemorrhoids and Injection Sclerotherapy as a Treatment Modality

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Abstract :

Introduction: Haemorrhoids are the clinical manifestation of the downward disruption of normal functional architecture known as the anal cushion. A wide variety of treatment options are currently available for haemorrhoidal disease. For grade I & II of haemorrhoids, Minimal Invasive Procedures are done routinely in which Injection Sclerotherapy is included in this study. **Methods:** 150 patients presenting with Grade I & II haemorrhoids, admitted through the outpatient department, under General Surgery Department at our Hospital, who underwent Injection sclerotherapy between April 2019 to April 2022 were included. **Objective:** To study clinical presentation of patients with Grade I & II of haemorrhoides & sclerotherapy as a management modality. **Results:** Male gender and middle age group were predominant risk factors for haemorrhoides & sclerotherapy was found to be cost effective as well as compliant management modality. **Conclusion:** Injection Sclerotherapy is a day care procedure & is highly effective in treating Grade I and Grade II of haemorrhoids. It is economical, well accepted, well tolerated over other management modalities for haemorrhoids.

Keywords: Day care Procedure, Hemorrhoids, Injection Scelrotherapy

Introduction:

Haemorrhoids are the clinical manifestation of the downward disruption of normal functional structures known as the anal cushions.[1] The condition is considered one of the most frequent diseases of the anal region as it accounts for nearly 50% of proctological visits in a colorectal unit.[2] It is also estimated that about half of the population would have haemorrhoids by the age of 50 years.[3] Haemorrhoids can occur at any age, and they affect both men and women; the exact incidence in developing countries is unknown, but the disease is being more frequently encountered in our environment, perhaps due to westernised life style and diet.[4]

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Haemorrhoids are classified according to their origin in relation to dentate line.

1.) External Haemorrhoids:-originate distal to the dentate line, arising from the inferior haemorrhoidal plexus, and are lined with modified squamous epithelium, which is richly innervated with somatic pain fibers (delta type, unmyelinated).

2.) Internal Haemorrhoids: - originate proximal to the dentate line, arising from the superior Haemorrhoidal plexus, and are covered with mucosa.

Internal Haemorrhoids are further classified into 4 grades:

First Degree Piles-haemorrhoids in earliest stages project slightly into lumen of anal canal when the veins are congested at defecation.

Second Degree Piles- haemorrhoids tend to form larger swellings protrude into anal canal, descend towards anal orifice, and appear externally while patient is straining, but spontaneously reduce when straining stops.

Third Degree Piles- haemorrhoids prolapse more readily and protrude during defecation or straining and remain prolapsed until they are digitally replaced within anus.

Fourth Degree Piles - haemorrhoids that permanently protruded and cannot be digitally replaced within anus.

Non-operative management is considered the treatment of choice for patients with symptoms (anal bleeding or pain) and Grades 1, 2 and 3 internal haemorrhoids.[5,6] These methods aim at tissue fixation achieved by sclerotherapy, cryotherapy, photocoagulation, laser or fixation with tissue excision using rubber band ligation.[7]

For grade I & II of haemorrhoids Minimal Invasive Procedures are done routinely which includes:

1. Injection Sclerotherapy : Most commonly done
2. Barron's Rubber band ligation
3. Cryotherapy
4. Photocoagulation
5. Ligasure

Among these all day care procedures Injection Sclerotherapy is most commonly done which is included in this study.

Aim and Objectives:

To observe, record, analyse and to draw conclusions about ease of doing, effectiveness, & complications of Injection Sclerotherapy for management of Grade I &II of haemorrhoids by studying pre-operative protocol details, operative procedures and post-operative course.

Methods:

All Patients presenting with Grade I & II haemorrhoids, who met inclusion criteria & given informed consent, admitted through the outpatient department, under General Surgery Department at our hospital. It was a **Randomised controlled** Prospective study conducted between April 2019 to April 2022. Sample size was taken as 150 patients as per convenient sampling.

Data was collected on the basis of:

- Demographic details: Age, Sex of patients
- Basic investigations like complete blood counts, serum electrolytes, Random Blood Sugar [serum urea, creatinine, X-ray chest PA view and ECG were done- whenever needed]
- A detailed history and complete examination of all the patients was done including Digital Rectal Examination (DRE) followed by proctoscopy.
- Grade of Haemorrhoids
- Informed consent was taken after explaining the objective of study and operative procedures.

All the patients were classified according to the Grade of Haemorrhoids and explained procedure of Injection Sclerothapy.

Inclusion criteria:

- Age group 20-60 Years
- Patients diagnosed as having Grade I & II of Haemorrhoids who consented for Day care Procedures like Injection Sclerotherapy

Exclusion criteria:

- Age group <20, >60 years

  Patients with Grade I and II haemorrhoids who consented for other modalities of treatment i.e. Medical Treatment, Excision Procedures
- Grade III & IV of Haemorrhoids
- Patients with previous perianal surgeries
- Patients with anal incontinence, concomitant anal disease (e.g. fissure, abscess, fistula, dermatitis, inflammatory bowel disease, ano-rectal cancer etc.)
- Patients having bleeding disorder & patients on anti-coagulant therapy
- Pregnancy

Injection sclerotherapy: All the patients underwent treatment in similar course.

Equipment required for Injection sclerotherapy:

- Proctoscope
- Disposablae 10ml syringe & Luer Lok device(used most comoonly) or Traditional Gabriel glass syringe–not available in market nowadays

Preparation of the patient: No special preparation necessary other than relatively empty rectum. Attempted bowel preparation that has been inadequate often results in a watery stool which makes the procedure more difficult than in would have been no preparation.Pre operative one dose of intra venous Antibiotic should be give to prevent transient bacteremia.

Position of Patient: Left Lateral position or Lithotomy position.

Figure 1: Disposable syringe and luer lok

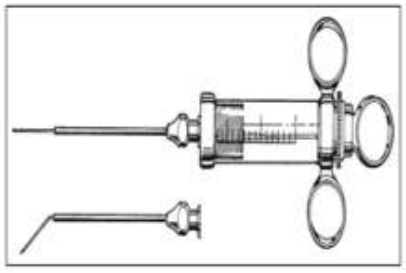


Figure 2: Gabriel Syringe

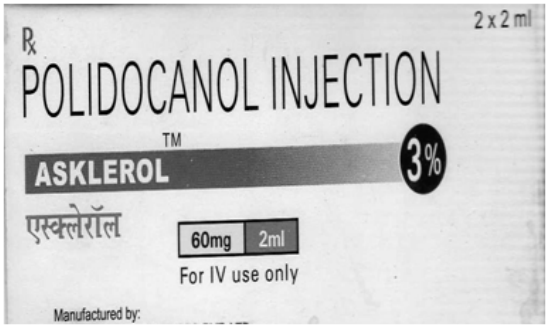
Sclerosant agents:

1.) 0.5% Phenol 3 to 5 ml in Almond or Arachis oil (50ml almond oil costs around 130 rs and phenol is available in hospital)

2.) ASKLEROL'- POLIDOCANOL 8 commonly used now a day strictly as submucous injection. A maximum of 2 ml should be administered during the initial treatment session. In subsequent sessions (at intervals of 1-2 weeks) a maximum of 3 ml polidocanol 3% or 2 ml polidocanol 5% may be administered. (costs around 130 rs /2ml)

3.) Quinuride solution containing 2.4% of anhydrous quinine

Fig. 3: Commercial Polidocanol Preparation



Procedure:

Injection of the sclerosant was given at the base of the hemorrhoid above dentate line. Tip of the needle inserted 1 to 2 cm deep and parallel to the anal canal. In each core of Hemorrhoid 2 to 3 ml sclerosant agent was slowly injected. The injection produces elevation and pallor of the mucosa solution spreads to submucosa upwards to the pedicle and downwards to the internal haemorrhoid. If patient feels pain while injecting, it should be stopped immediately. Needle should not be withdrawn immediately which causes bleeding and leaking of the solution, at least bad it for 1 minute and slowly withdraw that will seal the tract. If bleeding noted after procedure, it can be controlled by firm pressure by finger over bleeding point. If no bleeding post procedure, patient can be sent home in 24 hours.

Postoperative oral analgesics may be required for some days, but codeine should be avoided as it will cause constipation.

Postoperative sitz baths – sitting in a utensil filled with warm water for 15-20 minutes for 2-3 times a day-recommended to all the patients.

Fig. 4: Injection Sclerotherapy

Mechanism of Action of Sclerosant agent: [8-11]

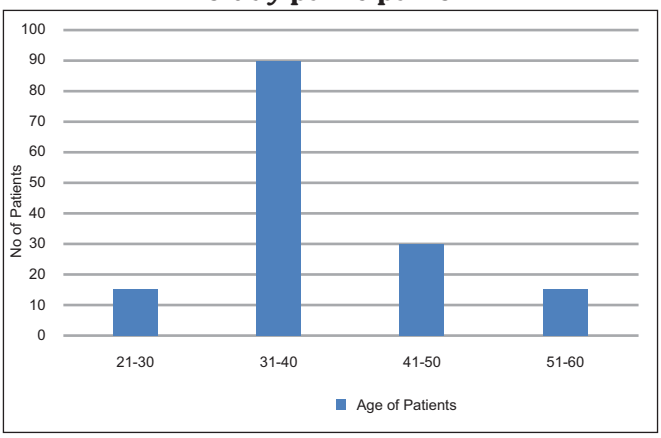
Injection of Sclerosing agents > Low grade long standing inflammatory reaction> Fibrosis of vascular cushions & "Scar" the vein & mucosal tissue > Collapse the vein walls & cause Hemorrhoids to shrivel

Results:

Haemorrhoids are classified into four degrees based on their severity. Manipulation of the diet and the addition of bulking agents seem to be a logical first line of conservative therapy. Injection sclerotherapy is found to be common daycare procedure for treating Grade I & II haemorrhoids.

Age wise distribution: 31-40 years found to be most common age group for prevalence of Grade I & II of haemorrhoids (90 patients) followed by 41-50 years (30 patients) followed by 21-30 years (15 patients) and 51-60 years (15 patients).

Fig. 5: Age wise distribution of study participants



Gender distribution: Prevalence of Haemorrhoids found more in males (70% of the patients) than in females (30% of the patients).

Symptoms of the patients: 90% of patients(135 patients) presented with complain of bleeding per rectum followed by local site irritation (80% patients-120) i.e itching, burning sensation around perianal region followed by constipation(40% of patients-60).

Discharge of patients within 24 hours: Selected all 150 patients who underwent Sclerotherapy got discharged within 24 hours.

Postoperative complications of injection sclerotherapy: Patients were followed for period of 1 week and immediate complications of injection sclerotherapy noted. Among 150 patients 40 patients (26%) had complain of pain & discomfort which was relieved by analgesics and hot sitz bath followed by bleeding which was presented in 25 patients and relieved by hot sitz bath.(17%)

Discussion:

As people age, connective tissue between the anus and rectum weakens, making them more susceptible to haemorrhoids. Constipation (Primary cause of haemorrhoids) which is increasingly common as people age. Incidence of haemorrhoids is more common in men than in women which may be due to the fact that the majority of women suffering from haemorrhoids fail to seek any medical assistance due to social and cultural factors. They usually present late in the course of the disease only when their symptoms

became unbearable.

From all the sclerosant agents, polidocanol and phenol are most commonly used sclerosant agents, both are economically compliant and have same effectiveness. All patients who underwent injection sclerotherapy were dicharged on same day after observation of 6 hours as the procedure is more compliant and has less complications. Patients were followed up for period of 1 week. Among patients post operative pain & dicomfort were found to be most common complications which was relieved by advising hot sitz bath to patients.

Conclusion:

From this study it was concluded that Middle age group & Male gender were some of the factors found to predispose the person to the risk of haemorrhoids. Advantages of injection sclerotherapy are: Shorter Hospital Stay, Cost effective, Less Post operative complications, Very less chances of Recurrence and Early Return to work. As Injection Sclerotherapy is a day care procedure it is highly effective in treating Grade I and Grade II of haemorrhoids and is economical, well accepted, well tolerated over other management modalities for haemorrhoids.

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