



Endoscopic Management of Internal Piles. A Prospective Comparative Study between Endoscopic Injection Sclerotherapy and Endoscopic Band Ligation.

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Abstract

Introduction: Hemorrhoids are a common complaint with estimates suggesting a prevalence of 4% of the adult population. Treatments such as rubber band ligation (RBL), sclerotherapy and excisional surgery have been in use for many years, and recently stapled hemorrhoidopexy, has gained acceptance^[1]. Objectives: To assess the efficacy and safety of retroflexed endoscopic hemorrhoidal therapy comparing the two most popular methods of endoscopic hemorrhoidal treatment, namely rubber band ligation (RBL) and injection sclerotherapy with Ethanolamine Oleate (EAO) in cases with bleeding/rectum due to internal piles. **Materials and Methods:** This was a prospective, randomized comparative study that included 180 patients who presented to the gastroenterology unit with bleeding/rectum and was attributed to internal hemorrhoids. **Results:** The study included 180 patients; 76 females and 104 males, with a mean age of 45.4 ears (range 26-76 ears). Sigmoidoscopy showed that 88 patients had GIII and 92 had GII internal hemorrhoids. **Discussion:** Hemorrhoids (Hs) are a common condition which affects both sexes across a wide spectrum of age groups, Prevalence varies from 4.4% in the general population to 36.4% in general practice⁽⁷⁾⁽⁸⁾⁽⁹⁾. **Conclusion:** In our opinion the use of these 2 techniques BL & IS using a videoscope in the retroflexed position allows extreme control regarding the site of treatment application with better visibility and maneuverability that will completely change the previously reported incidences of complication when using older techniques especially the anosopic approach which sometimes even requires anal dilatation.

Keywords: Internal piles, rubber band ligation (RBL), sclerotherapy and excisional surgery.

Introduction

Bacillary Hemorrhoids are a common complaint with estimates suggesting a prevalence of 4% of the adult population. Treatments such as rubber band ligation (RBL), sclerotherapy and excisional surgery have been in use for many years, and recently stapled hemorrhoidopexy, has gained acceptance^[1]. Rectal pain and/or bleeding are common complaints among the general population, hemorrhoids are the most common etiology for these complaints^[2].

The aetiopathogenesis remains unclear. Many arguments are in favor of a progressive degeneration of the fibromuscular structure of the internal hemorrhoidal plexus responsible for its prolapse in the anal canal^[3]. The usual 4-grade classification of hemorrhoids has no direct impact on their treatment. Portal hypertension is not a cause of hemorrhoids. Blood loss, a sensation of prolapse, pruritus and soiling are non-specific symptoms of hemorrhoids.

Anemia may only be attributed to hemorrhoids after other pathology has been excluded. Acute massive anorectal blood loss is frequently caused by traumatic damage to the rectum. Hemorrhoids are not palpable on rectal digital examination. The regulation of defecation and eating habits can have a preventive effect on the development of hemorrhoids. Conservative measures form the basis of treatment for hemorrhoidal complaints. Local anti-hemorrhoidal treatment can only be expected to give short-term relief and is not a causal therapy. Barron elastic band ligation and sclerosing, in addition to infrared coagulation are treatment modalities in the outpatient setting that are effective, inexpensive and optimally patient-friendly^[4]. Most cases can be treated by conservative medical treatment or nonsurgical procedures (e.g., rubber band ligation, sclerotherapy, infrared coagulation). Surgical excision of symptomatic thrombosed external hemorrhoids is indicated if within 48 to 72 hours of pain onset^[5]. With appropriate diagnosis, most hemorrhoids can be treated successfully non-surgically in an office setting^[6]. Surgical hemorrhoidectomy remains the procedure of choice in patients with advanced prolapsing hemorrhoids^[2]. Proper anal hygiene and correction of chronic constipation or diarrhea are essential to prevent recurrence of hemorrhoids.

Objectives:

To assess the efficacy and safety of retroflexed endoscopic hemorrhoidal therapy comparing the two most popular methods of endoscopic hemorrhoidal treatment, namely rubber band ligation (RBL) and injection sclerotherapy with Ethanolamine Oleate (EAO) in cases with bleeding/rectum due to internal piles.

Materials and Methods

This was a prospective, randomized comparative study that included 180 patients who presented to the gastroenterology unit with bleeding/rectum and was attributed to internal hemorrhoids. Grade I was managed by medical treatment meanwhile grade IV were excluded and referred to surgery, grade II&III were included. Patients were randomized to either injection sclerotherapy or band ligation, except for the last 5 cases were subjected to band ligation without any form of sedation. All patients had a standard colonic preparation one day before the procedure and was given quinolones and metronidazole after the procedure for 7 days in addition to laxative and paracetamol as a pain killer if needed.

Group I; 80 patients underwent injection sclerotherapy using ethanolamine oleate sclerosant. Group II; 100 patients underwent band ligation using a standard band ligation set; Group IIB; 20 patients without any sedation with the patient alerting the physician if pain occurs (dentate line sucked in). A therapeutic upper video scope was used in all procedures with the procedure done in the retroflexed position which gave very good visibility. When injection sclerotherapy was utilized all identifiable piles were injected. Meanwhile when banding was utilized a maximum of 3 piles were banded in the first session to avoid strictures. All patients were assessed for Symptom control, retreatment, postoperative pain, complications, time off work and patient satisfaction were assessed as well as Long-term response (follow-up 12 months).

Results

The study included 180 patients; 76 females and 104 males, with a mean age of 45.4 years (range 26-76 years). Sigmoidoscopy showed that 88 patients had GIII and 92 had GII internal hemorrhoids. In group I; 80 patients with bleeding/rectum had injection sclerotherapy of all large and visible hemorrhoids usually starting with the hemorrhoid that shows evidence of bleeding. none of the patients (0%) had bleeding after the first session. None of the patient (0%) had significant pain after the procedure, meanwhile 8 patients (10%) had some mucoid discharge for a few days and patients (10%) had fever after the procedure for less than 48 hours which all subsided. In group II; 100 patients were treated by band ligation for 3 hemorrhoids to avoid stricturing usually starting with the largest and the potential source of bleeding. 12 patients (12%) had recurrent bleeding within the first 3 days and were all managed successfully by injection sclerotherapy. Only 4 patients (4%) had mucoid discharge. None (0%) of the patients had fever. In Group IIA 28 patients (28%) had severe pain, those of which when re-endoscoped showed the involvement of the dentate line within the banded mucosa which was sucked in accidentally and was not clear at the time of the procedure, but all resolved within 5- 10 days. Meanwhile in group IIB none (0%) of them had pain after the procedure. Comparing Re-bleeding in group I & II it was, 0% Vs 12% respectively ($P < 0.01$) (H.S.). Comparing post procedural pain between groups I & IIA it was 0% Vs 28% ($P < 0.01$) (H.S.), between groups I & IIB it was 0% in both groups and between groups IIA & IIB it was 28% Vs 0% respectively ($P < 0.01$) (H.S.). Time off work was much less for patients in group I with

injection sclerotherapy. The patient overall satisfaction was much better within group I than in group II as

95% of patients in group I were satisfied Vs only 60% in group II (Table 1).

Table 1. The patient overall satisfaction was much better within groups

	Group I	Group II	Group IIA	Group IIB	Significance
Bleeding	0	12 (12%)			H.S. (P<0.001)
Pain	0		28 (28%)		H.S. (P<0.001)
Pain	0			0 (0%)	N.S. (P> 0.05)
Pain			28 (28%)	0 (0%)	H.S. (P<0.001)
Discharge	8 (10%)	4 (4%)			Sig. (P<0.01)
Fever	8 (10%)	0 (0%)			H.S. (P<0.001)
time off work	1-3 d		5-15 d	2-5 d	
Patient satisfaction	95%	60%			
Long term follow up (12 month)	5% late bleeding- no recurrence	3 patients had re-bleeding 2 patients had recurrence 5 patients had intolerable pain			

Discussion

Hemorrhoids (Hs) are a common condition which affects both sexes across a wide spectrum of age groups, Prevalence varies from 4.4% in the general population to 36.4% in general practice^{(7)(8),(9)}. Only a third of patients with symptomatic hemorrhoids seek medical help⁽⁹⁾. Many therapeutic modalities are used to treat symptomatic piles many of which depend on the creation of fibrous reaction in the submucosa of the hemorrhoidal tissue⁽¹⁴⁾. Despite the availability of numerous surgical and non-surgical options for the treatment of hemorrhoids like sclerotherapy, rubber band ligation, cryosurgery, infrared photocoagulation, bipolar diathermy and electrocoagulation, non of these therapies has been claimed as ultimate. In our present study we compared 2 widely used techniques for management of bleeding infernal piles (band ligation and injection sclerotherapy), however we utilized the same methods but using a videoscope in the retroflexed position which allowed more view of the hemorrhoids to be treated and also allowed more control of the site of injection to all visible hemorrhoids as well as those intended for banding as contrary to most published data about efficacy and safety which were mostly done using the anosopic techniques which definitely allowed less visibility and less control on which hemorrhoids to be treated as well as much less precision specially in cases of

injection sites which had probably in turn lead to some complication for injection sclerotherapy due to deeper injections which differs dramatically when using the endoscope in the retroflexed position which allows precise and rather exact site and depth of injection of the sclerosant material into the lumen and wall of the clearly visible hemorrhoid as well as perfect placement of bands onto the hemorrhoides. Several clinical practice guidelines^{(8),(10)} and meta-analyses^(11,12) have recommended office procedures for hemorrhoids of grades I through III. Although there is some discrepancy about the procedure of choice, rubber band ligation appears to be the most effective technique. An evidence-based clinical practice guideline⁽⁸⁾ has recommended coagulation techniques for bleeding nonprolapsed hemorrhoids or those with a low grade of prolapse (grades I and II), and reserving rubber band ligation for hemorrhoids more severely prolapsed (grade III). The basis for this recommendation is that flat bleeding hemorrhoids may not provide enough tissue to grasp. Surgical hemorrhoidectomy should be reserved for grade IV hemorrhoids and for grade III lesions that do not respond to other procedures. This is an approximate rather than a rigid approach, and the final decision will depend on the physician's technical training, the patient's preferences, clinical circumstances, and local

resources⁽¹³⁾. Injection sclerotherapy (IS) is a time-honored method and is widely practiced in the UK and other parts of the world to treat first and second degree haemorrhoids by creating this fibrous reaction. The use of IS started over a century ago and throughout its development different sclerosants have been used.⁽²⁾ The low cost of IS and the ease with which it can be administered in an out-patient setting have contributed to its popularity. The procedure is considered to be very safe despite serious complications having been reported. These include local complications such as pain, injection site haemorrhage and ulceration.⁽³⁾ Urological complications such as haematuria, oleouria, urinary retention, urethral stricture, epididymitis, prostatic abscess⁽³⁾ and impotence⁽⁴⁾ have also been reported. Septic complications reported included bacteraemia,⁽⁵⁾ retroperitoneal abscess formation⁽⁶⁾ and necrotising fasciitis.⁽⁷⁾ Injection sclerotherapy is relatively cheap and requires one clinician to administer it. This has contributed to its popularity for treating first and second degree haemorrhoids in the UK. However, in terms of efficacy of treatment IS and photocoagulation are similar^(9,10) and both have been shown to be less effective than RBL in controlling symptoms and long-term outcome.^(10,4) A meta-analysis of published randomised controlled trials has not shown a significant difference in the incidence of complications following RBL and IS (including haemorrhage), although RBL was significantly more painful.⁽⁵⁾ The number of patients in this analysis was less than 400, which is not enough to account for the less frequent, but often serious, complications. Urological complications are likely to result from an anteriorly misplaced injection into the substance of the prostate, urethra or the peri-prostatic venous plexus. Misplacement of injection occurs despite the design of the shaft of the needle, which incorporates a beveled buffer at a distance of 1-2 cm from the tip of the needle. This distance is too long to prevent injection deeper to the submucosa. Serious complications following RBL are relatively rare. Massive hemorrhage was reported in 1.2% and urinary retention in 0.6% of cases in a series of 512 patients treated with RBL, priapism occurred in one case. Sixteen, a handful of reports of life-threatening septic complications appeared in the world literature during the 1980s.⁽¹⁷⁻¹⁹⁾ The patient, typically, presents with fever, malaise, perineal pain and urinary symptoms in the first few days after banding. Early recognition and aggressive antibiotic and surgical treatment avert this potentially fatal condition. In our opinion the use of these 2 techniques BL & IS using a videoscope in the retroflexed position allows extreme control regarding the site of treatment application with better visibility

and maneuverability that will completely change the previously reported incidences of complication when using older techniques especially the anoscopic approach which sometimes even requires anal dilatation.

Conclusion

In our opinion the use of these 2 techniques BL & IS using a videoscope in the retroflexed position allows extreme control regarding the site of treatment application with better visibility and maneuverability that will completely change the previously reported incidences of complication when using older techniques especially the anoscopic approach which sometimes even requires anal dilatation. In our opinion the use of these 2 techniques BL & IS using a videoscope in the retroflexed position allows extreme control regarding the site of treatment application with better visibility and maneuverability that will completely change the previously reported incidences of complication when using older techniques especially the anoscopic approach which sometimes even requires anal dilatation.

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