

Elastic band ligation of hemorrhoids using flexible gastroscope

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Objective This study aims at investigating the outcome of rubber band ligation of piles in an outpatient setting.

Methods After taking an informed consent, 46 patients, 89% of them were males, mean age 52.5 years, with uncomplicated grade II-III piles were involved in the study. Rubber band ligation of piles was made by Pentax iScan gastroscope. The patients were followed up regularly to record any complication.

Results Most of the patients (91.3%) need one session of treatment, 3 patients need 2 sessions, no more than 2 bands were used. Additionally, a relatively low percentage of patients recorded certain complication of the operation, on follow up.

Conclusion High success rate, cost effectiveness and the simplicity of rubber band ligation as an outpatient procedure promote its use as the first line of treatment for first, second and early third degree hemorrhoids.

Keywords band ligation, internal piles, flexible gastroscope, outpatient setting

Introduction

Internal hemorrhoids are initially managed conservatively. The conservative therapy includes life-style changes such as increased fiber and liquid intake and regular cleansing. This might be combined with local anesthetic and antiphlogistic medication.^{1,2} More than 90% of patients with symptomatic piles can be treated conservatively or by rubber band ligation. Infrared coagulation and cryotherapy are also the options, but are no longer commonly applied.³ Since the early 1960s, the treatment of choice for persisting internal hemorrhoids is elastic band ligation by means of a rigid proctoscope (Barron ligation).^{4,5} The ligation of hemorrhoids is widely used as an alternative method for the treatment of internal symptomatic hemorrhoids and has replaced hemorrhoidectomy in 45% of cases.⁶ This method gives good results in 69–94% of cases. Although it is not associated with the problems that follow the typical surgical treatment of hemorrhoids.^{7–10}

The RBL method is not free of complications and even deaths have been reported in immunosuppressed patients.^{11,12} Though considered as a safe, simple and effective procedure, studies show complications like recurrence, pain, bleeding and even pelvic sepsis in some cases. There is a wide range of recurrence rate from 8 to 30%, greatest for grade III hemorrhoids. Pain is common for a few hours following rubber band ligation (RBL) and occasionally patients experience severe pain so as to require admission to hospital.^{13–16} On the other hand, a flexible endoscope with a ligation cap that is employed for the ligation of esophageal varices was tested to treat internal piles by some researchers.^{17–20} The advantages of a flexible endoscope might be summarized by maneuverability beside photographic documentation and a wider view field.

Materials and Methods

Forty-six patients with uncomplicated hemorrhoids (Abscess, Thrombosis) grade II-III were involved in the study (Table 1).

Patients were sedated by slow i.v. using diluted Medazolam 3 mg and pethidine 50 mg. Pentax iscan gastroscope was used with multiband ligator device (Cook, USA) and the same was used in esophageal varices ligation.

The hemorrhoids were suctioned into the ligation cap in either retrograde or ante grade fashion. One or two hemorrhoids were ligated in each session. All treatment sessions were performed in an outpatient setting.

Patients were encouraged to consult the hospital at any time and provided with facilities to contact us at any time if developed any abnormal events.

Result

Forty-six patients, mean age 52.5 years (30–75) and most of them were males (89%), were included in this study. Most of them referred from the surgical department. A total of 45 patients were presented with a history of attacks of bleeding. One patient presented with active bleeding, and she was unfit for surgical intervention. Most of patients need one session of treatment, 3 patients need two sessions, no more than 2 bands were used (Table 2).

On follow-up, a relatively low percentage of patients recorded certain complication of the operation as listed in Table 3.

Discussion

Hemorrhoid is a disease of all ages, gender and socioeconomic status. This study shows high male proportion. This is also found in many other studies in Karachi. Shamim et al. also show a male predominance of 74.88%.²¹ It has been found that the treatment of choice is proctoscope-guided rubber band ligation and that it is cost effective. Other works are trying to evaluate usefulness of new techniques.^{22–24} Similarly, the use of a flexible endoscope for hemorrhoidal elastic band ligation was further analyzed using video endoscopic anoscopy and a single-handed ligator.^{24–26} These studies conclude that it is a safe and efficient method with some advantages, although costs are still a major drawback.

Cazemier compared the two procedures, and he concluded that both techniques were easy to perform,

Table 1. Frequency distribution of grade of piles in forty-six patients involved in the study

No.	Hemorrhoid degree	No.(%)
1	1 st degree	– (0%)
2	2 nd degree	16 (34.7%)
3	3 rd degree	30 (65.3%)
4	4 th degree	– (0%)
Total		46 (100%)

Table 2. Number of sessions of RBL treatment in the included patients

RBL sessions	Degree of hemorrhoids		No.(%)
	2 nd degree	3 rd degree	
Single ligation	16	26	42 (91.3)
Two sessions	0	4	4 (8.7)

Table 3. Frequency distribution of complications of the RBL operation

No.	Complications	No.
1	Pain	2
2	Bleeding	2
3	Thrombosis	0
4	Ulceration	0
5	Fall of elastic band	0

well-tolerated and efficient.²⁶ It was easier to perform more ligations with the flexible endoscope. No serious adverse events were reported. Additional advantages of the flexible scope were the maneuverability and photographic documentation. Treatment with the flexible endoscope seemed to be more painful and was more expensive. And he explained the more pain sensation by the learning curve he had to deal with and that more bands could be applied.²⁷ In contrast, Wehrmann et al. found no significant difference in pain.²⁸

Many studies evaluated the patients with three-dimensional endosonography for the presence of possible sphincter defects and changes in the submucosa. They found no difference in the appearance of the anal configuration after treatment with either rubber band ligation or infrared coagulation,¹ and these endosonographic findings confirmed that band ligation is a safe technique. Pain or perianal discomfort is the commonest complaints after rubber band ligation.^{13,15}

Anorectal mucosa is sensitive to pain below dentate line. Application of bands at or below this line cause considerable

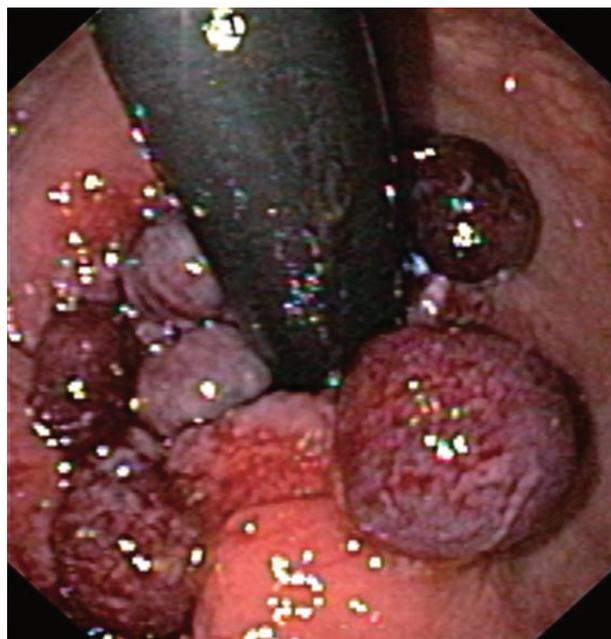


Fig 1. Rubber band ligation (RBL) of hemorrhoids is a widely used method for treatment of piles.

pain and discomfort after the procedure. This may last for a few days till the banded portion get necrosed and sloughed off. This is more common in large prolapsing hemorrhoids with a wider base. Some studies evaluated the use of a flexible endoscope equipped with a ligation cap, normally used for the ligation of esophageal varices, in treating hemorrhoids.^{16–28} A study from Iran shows that, with rubber band ligation, 26% of patients reported mild and moderate pain and 1% complained of severe pain.²⁸

A recent study from Faisalabad show that 60% of patients developed mild to moderate bleeding in the first postoperative week.²⁹ Bernal show that 32% of the patients referred pain after ligation and 13.81% of cases were operated due to persistent rectal bleeding or hemorrhoidal prolapsed.¹³

In summary, endoscopic ligation is an effective, safe treatment and is comparable with proctoscopic ligation. However, the treatment is more expensive.

Conclusion

Rubber band ligation is simple and cost effective procedure with a high success rate, and, as an outpatient procedure, promotes its use as the first line of treatment for first, second and early third degree hemorrhoids.

Conflict of Interest

None. ■

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