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A report on 102 rubber-band ligations of internal hemorrhoids

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Introduction

THE GENERAL PRACTITIONER is frequently called upon to treat internal hemorrhoids because they are a very common disease, especially prevalent among the actively working young adults. Most of the people with internal hemorrhoids do not bother to seek medical advice until they get the frightening complication of bleeding. Thus over 85% of them present with the complaint of passing blood during defecation, and only a minority present with other symptoms such as protrusion, pain and discomfort, sense of obstruction in the anus, etc. For mild cases conservative treatment by regulation of diet, avoidance of constipation, and the insertion of astringent suppositories may suffice since the condition is of a self-limiting nature anyway. In the more severe and persistent cases active intervention is indicated. In the past I used to treat these cases by injection, using either the 5% phenol in almond oil which was deposited in amount of two to three mililitres submucosally at the upper pole of the hemorrhoid, or the 20% phenol in glycerine which was injected in amount of 0.15 ml to 0.30 ml into the hemorrhoidal substance. Although the injection will stop bleeding effectively it is however a temporary measure and is not curative as the condition will recur when the effect of the sclerosing agent has worn off.

Below is described the technique of rubber-band ligation of internal piles used in the treatment of internal hemorrhoids.

Technique of Rubber-band Ligation

A general physical examination should be carried out on the patient to detect the presence of any metabolic or degenerative disease particularly cirrhosis of liver which may cause or aggravate piles. It is mandatory to examine the anorectal region carefully by digital exploration and anoscopic inspection to exclude such conditions as anal fissure, hemorrhoidal thrombosis, carcinoma, papilloma, polyps, and inflammatory lesions which may produce symptoms similar to those of hemorrhoids. Then a decision must be made as to whether the hemorrhoid is suitable for ligation, since a rather small one will not provide enough tissue for the rubber-band to constrict so that it will tend to slip off after application. When more than one sizeable pile is present it is necessary to choose the most "culpable" one for ligation first because only one is to be ligated at one sitting, and three weeks must be allowed to elapse for healing of the wound to take place before another one is ligated. Now the anoscope is held in position by the assistant and the ligator, already loaded with the rubber-band, is introduced into the anal canal in such a way that the chosen hemorrhoid is put inside the drum of the instrument. With the other hand the operator uses a small Allis tissue forceps to grasp the apex of the engaged hemorrhoid through the lower opening of the drum (Fig. 3). Having got the pile pulled up and steadied, the operator can now push the drum up a little bit against the neck of the hemorrhoid and at the same time close the handle of the instrument to discharge the rubber-band into place around the neck of the pile. Care must be taken to ensure that the point of application of the rubber-band is well above the anorectal line, with a distance of at least five milimetres. If the rubber-band were applied too close to the dentate line the patient would immediately experience pain which would necessitate the removal

of the band by means of a hemostat and scissors and the reapplication of the band at a higher point.

The McGivney Hemorrhoidal Ligator is considerably improved and modified from James Barron's ligator introduced in 1963, which was again an improved and modified version of the original ingenuous instrument invented by Paul C. Blaisdell in 1954 (Fig. 1). The shaft can be easily removed from the handle for sterilization. It can be rotated 360 degree on the handle to facilitate the placement of the ligating drum in each quadrant of the lower rectum. To load the small latex rubber-band (five milimetres in diameter) on to the ligating drum, the band is first threaded on to the loading cone from its pointed end and pushed down to its base. The cone is then attached to the free end of the drum so that the band can be transferred from the base of the cone to the drum. When this is done the cone is detached from the drum and the loaded instrument is ready for operation (Fig. 2).

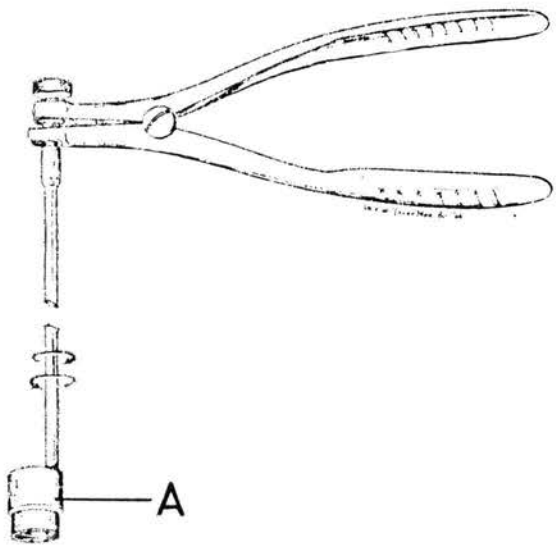

Fig. 1

The McGivney Hemorrhoidal Ligator showing the double-sleeved ligating drum (A).

Management after Ligation

Immediately after ligation the hemorrhoid begins to swell and darken in colour and the patient may feel a dull ache at the anus. Within a few hours infarction is complete but the process of sloughing may take a few days during which time some bleeding may be noticed in the stools. During the first few days, especially the first 48 hours, a

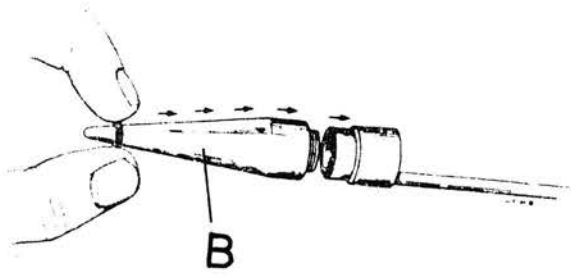

Fig. 2

The loading cone, not yet attached to the ligating drum, with the rubber-band being pushed towards its base (B).

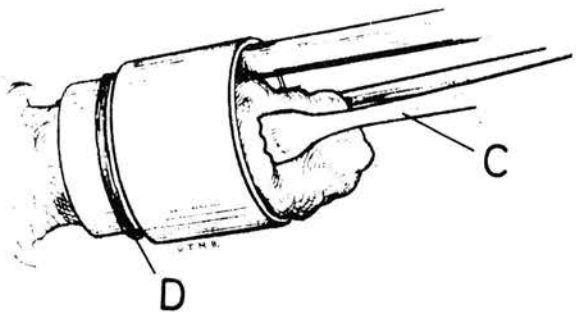

Fig. 3

The Allis tissue forceps, grasping the apex of the hemorrhoid which has been engaged inside the ligating drum (C).

The rubber-band, still loaded on the ligating drum, is ready to be discharged to constrict the neck of the hemorrhoid (D).

sense of fullness at the anus and an urge to defecate may be felt in addition to the dull aching. The patient is assured that he or she can carry on with his or her usual work and activities without restriction. A few tablets of non-constipating analgesic are provided in case they are needed. Two tablets of bisacodyl to be taken at bedtime are prescribed for the first week to keep the bowels open and the motions soft. Excessive straining at stool is to be avoided because it may cause or aggravate bleeding from the sloughing area. The patient is instructed to report back for examination if there is excessive bleeding, say three to four bloody motions within a period of several hours. Those having more than one bleeding or protruding pile should be warned that their symptoms may persist after the first ligation because only one pile is treated at one time and the untreated ones may continue to give trouble until

they are subsequently dealt with one by one, otherwise the patients may conclude that the treatment is not effective.

Complication after Ligation

The only complication is excessive bleeding from the sloughing area. Salvati (1975) reported that two per cent of his cases had excessive bleeding for which he performed electrocoagulation in the office to stop the bleeding.

Presentation of the Author's Cases

During the period from July 1975 to April 1977 I performed 102 ligations for internal hemorrhoids on 78 patients, of which 16 patients or about 20% had more than one ligation (Table I). It will be seen that there are 46 patients (60%) who are young adults in the age group from 26 to 45. There are 48 males (61.5%) to 30 females (38.5%). No cases of excessive bleeding were encountered in the present series. Of the 78 patients treated 17 or 22% were lost to follow-up. All of the 61 patients who returned for follow-up expressed satisfaction over the treatment.

Discussion and Conclusion

What is the treatment of choice for second-degree and third-degree hemorrhoids? Hemorrhoidectomy, the classical treatment, can first be ruled out because it is more or less a major surgical procedure that requires hospital admission which most patients dislike and is expensive in terms of the cost per day of maintaining a hospital bed. It should be reserved for large internal hemorrhoids associated with external piles. Other inpatient procedures, such as manual dilatation of the anus and the internal sphincterotomy, undoubtedly effective measures, are also not the treatment of choice for the same reason.

Outpatient procedures for the treatment of piles certainly are more acceptable to the patients than the inpatient ones. But they must be both effective and free of complications. The injection method can give immediate relief for bleeding but it is not curative having a very high rate of recurrence. Cryosurgery is a highly effective procedure for internal hemorrhoids in the office but it has certain disadvantages. It requires the application of local anaesthesia and the patient has to bear the inconvenience of the inevitable subsequent watery discharge which can last up to several weeks. Besides, the equipment consisting of the freezing instrument and the gas cylinder is rather expensive and costs more than two thousand dollars to start with.

In rubber-band ligation we have a simple, quick and safe office treatment for internal piles. It is highly acceptable to the patient because its postoperative local discomfort lasts for only two or three days and it does not entail interruption of work and usual activities. The necessary instruments are the anoscope, the McGivney ligator, the Allis tissue forceps, and the rubber-bands all of which do not cost more than 500 dollars. How effective is the rubber-band ligation method? In a leading article entitled "Outpatient Treatment of Hemorrhoids" in the 21 June 1975 issue of the British Medical Journal, the author presents a very succinct discussion on the choice of treatment for internal piles and seems to come to the conclusion that rubber-band ligation is the treatment of choice. The article states that Steinberg *et al.* had reviewed the

Table I

Tabulation of Patients According to Age, Sex and Number of Ligations

Age Group	15–25		26–35		36–45		46–55		56–66		Total No. of Pt.	Total No. of Lig.
Sex	M	F	M	F	M	F	M	F	M	F		
Number of Ligations												
1	5	3	14	8	9	7	5	2	6	3	62	62
2	2				4	3		2		1	12	24
3					1		1				2	6
4							1				1	4
5												
6										1	1	6
TOTAL											78	102

long-term results of rubber-band ligation of hemorrhoids and found that three and a half to six years after treatment 89% of patients were cured or satisfied, though complete absence of symptoms was noted in only 44%. Two per cent underwent subsequent hemorrhoidectomy, and 12% had further conservative treatment for recurrent symptoms. Patients whose presenting complaint had been bleeding enjoyed the same improvement or cure rate as those who had presented with irritation or pain, and the results in patients with third-degree hemorrhoids were as good as those with second-degree ones.

I do hope that this report of mine will get the General Practitioners of Malaysia interested in adopting the rubber-band ligation method to treat their patients with internal hemorrhoids.

Summary

The technique of rubber-band ligation of internal hemorrhoids was described and a series of 102 ligations on 78 patients with internal piles was reported. It was concluded that the procedure was highly effective and acceptable to the patients and could be easily carried out in the office without fear of complications which were rare.

Reference

Leading Articles (1975), *Bri. Med. J.* 21 June 1975, 651.

Salvati, E.P. (1975), Postgraduate Course on Office and Hospital Management of Anorectal Disease, American Medical Association Annual Convention, Atlantic City, New Jersey, 1975, p. 20.