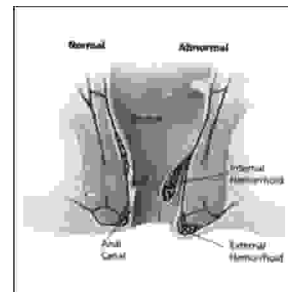


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HEMORRHOIDS; MANAGEMENT BY RUBBER BAND LIGATION



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ABSTRACT... amc_002@yahoo.com **Objective:** To evaluate the therapeutic results of rubber band ligation in hemorrhoidal disease. **Design:** Prospective case series with a minimum follow up of six months. **Place and duration of study:** At surgical out door department of Combined Military Hospital Rawalpindi from January 2002 to July 2003. **Patients and methods:** One hundred patients with 1st and 2nd degree hemorrhoids were treated by rubber band ligation and injection sclerotherapy in two groups "A" and "B" with 50 patients in each group respectively. They were followed up for six months and therapeutic effects were assessed by improvement in symptom severity score, post procedure complications and number of off days from work. **Results:** In group "A" 38(76%) patients were cured, 7(14%) showed improvement and 5(10%) showed no improvement. While in group "B" 25(50%) patients were cured, 13(26%) showed improvement and 12(24%) showed no improvement. In group "A" complications occurred in 15 patients and in group "B" complications occurred in 27 patients, however no serious and life threatening complications were seen. **Conclusion:** Rubber band ligation is a rapid, safe, effective and economical method of treating 1st and 2nd degree Hemorrhoids in out door

Key words: Hemorrhoids. Ligation. Ambulatory surgery.

INTRODUCTION

Hemorrhoids are dilated veins occurring in relation to the anus¹. Hemorrhoidal disease is very commonly encountered in 5% of the general population and 50% of the individuals over the age of 50 have complaints related to hemorrhoids. The history of treating piles dates back to ancient times. In addition to the historical methods, there are well established operations (such as the Milligan-Morgan and Ferguson operation) developed in the past 75 years which are still considered to be the

gold standards in treating hemorrhoidal disease. Meanwhile surgeons have continued to seek new solutions. This effort has resulted in outpatient treatments such as sclerotherapy, rubber band ligation², cryotherapy³ and infrared photocoagulation⁴. This process was accelerated by the need for "minimally invasive" operations. Stapled hemorrhoidectomy⁵ and Doppler-guided hemorrhoid artery ligation⁶ (DG-HAL) are recent procedures.

We have treated the patients of 1st and 2nd degree hemorrhoids with rubber band ligation and injection sclerotherapy, as out patient procedure.

Rubber band ligation (RBL) is a procedure in which Hemorrhoidal tissue 1-2 cm above dentate line is grasped, pulled into the barrel of an elastic band applicator and a small elastic band is slipped over it⁷. The tissue distal to elastic band under goes necrosis and excess mucosa in upper anal canal is removed. It is a form of miniature hemorrhoidectomy resulting in the adherence of the mucosa to the underlying muscle. RBL has advantages over other modalities of treatment, which include that it is an out door procedure with minimal complications if placed correctly. It reduces patient load on the hospital, patient does not have to wait much, lowers hospital and patients costs and no anesthesia is involved. The parameters used in comparing the two methods were improvement in symptom severity score, procedure complications and the number of "off days from work" after rubber band ligation and injection sclerotherapy

MATERIALS AND METHODS

This study was carried out at surgical out door department of Combined Military Hospital from January 2002 to July 2003. All Patients with 20 to 80 year of age presenting with 1st and 2nd degree primary.

Hemorrhoids at surgical out door of CMH RWP were included in study (including all serving and retired personals and their families representing all ethnic groups and areas of Pakistan) 50 patients were grouped together and treated by rubber band ligation (group A) and 50 (control group) treated by injection sclerotherapy (group B). Barron,s banding apparatus was used for RBL and Gebriel,s syringe was used for injection sclerotherapy Assessment proforma was designed for each case including symptom severity score(table I), procedure applied with its post procedure complication and follow up results after frequent intervals. Patients who had an intervention in the past, with any foreign material in body, on anticoagulant therapy or bleeding diathesis, with carcinoma rectum and anal canal, with external hemorrhoids and not willing for RBL were excluded.

Table-I. Symptom Severity Score

Symptoms severity score	Bleeding	Prolapse	Discharge	Pruritis	Pain
0	Never	Never	Never	None	None
1	Spotting	With straining	Mucous discharge	Occasionally	Only with stool
2	Dripping into pan	Permanent	Occasional soiling	Permanent	Constant Pressure
3	Without stool	-	Incontinent	-	-
4	Staining underwear	-	-	-	-
<i>Maximum possible score 13</i>					

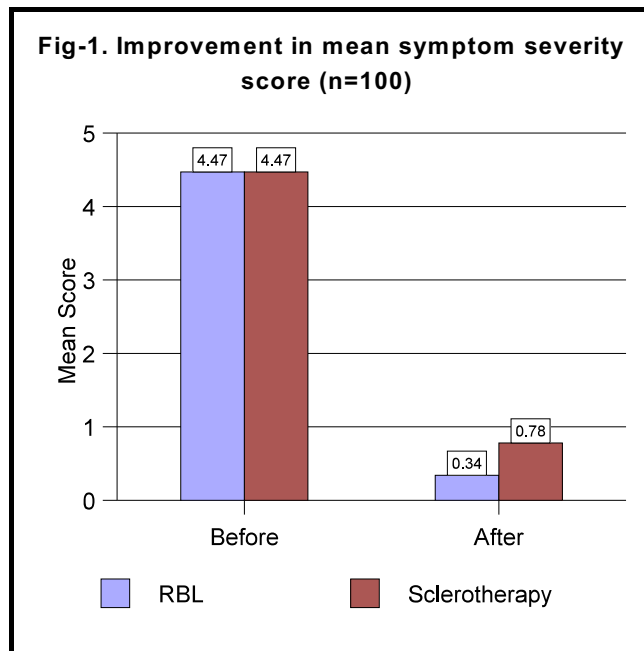
RESULTS

In both groups there were 100 patients out of them 78 were male and 22 were female, the age ranged from 21 to 80 years with mean age 42.5 years. 43 patients had 1st degree hemorrhoids and 57 had 2nd degree hemorrhoids. Symptom severity score ranged from 2 to 8 with mean 4.47 and standard deviation 1.36. Final mean symptom severity score at 06 months was .34 and .78 for group A

and B respectively (Figure 1).

In group "A" rubber band ligation cured 38(76%) patients, improved 7(14%) and it failed in 5(10%). In group "B" injection sclerotherapy cured 25(50%) patients, improved 13(26%) and it failed in 12(24%). In group A 9 (18%) patients had two sessions, while in group B 17(34%) had two sessions. 17 patients had concomitant illness like

Diabetese-Millitus, Ischemic Heart Disease and Hypertension. In 63 patients associated risk factor of constipation was present. In group A complication occurred in 16(32%) patients, while in group B 27(54%) patients developed complications. Two patients in group B developed sepsis for which they remained off from work for 7 days. All complications were treated successfully.



DISCUSSION

Hemorrhoids are very common problem of our society and patients are reluctant to undergo surgery because of shyness to show their anal region, fear of pain of operation (hemorrhoidectomy) and hospitalization. So non-operative modalities of treatment are now being practiced (commonly) which include rubber band ligation and injection sclerotherapy. They are carried out in the office without need of admitting the patient. They are easy, cheap, rapid and cost-effective. Many authors claim rubber band ligation is in-effective in 1st degree hemorrhoids, because sufficient tissue is not available to pull into the drum. We found it effective in reducing the bleeding.

In our study 9(18%) patients required two session of rubber band ligation and 41(82%) had single session of

rubber band ligation. Many authors claim that banding can be done in one session⁸ which is safe and economical, some surgeon recommend that banding should be done in two sessions to reduce post procedure pain and edema. Complications in our study were limited to pain and bleeding. Severe pain means band is applied close to dentate line, it is not relieved by narcotic analgesics and band must be removed under general anaesthesia in theater. Mild to moderate pain can be managed by injection of one ml of 2% lignocaine in each hemorrhoid mass, this is also recommended by other surgeons⁹.

Other complications following rubber band ligation include slippage of bands, reactive and secondary hemorrhage, retention of urine¹⁰, peri-anal abscess and peri-anal fistula¹¹. We did not see these nor other disastrous complications mentioned in the literature like fatal hemorrhage¹², pelvic cellulites¹³, tetanus¹⁴ and gas gangrene¹⁵. We found rubber band ligation very useful in pregnancy and in patients not fit for surgery. It is also effective in patients with hemorrhoids with bleeding disorders and hemorrhoids with portal hypertension.

Komorozos reported a recurrence of 11.9% after 2-years follow-up while walker et al. has reported recurrence rate of 27% at 1 year¹⁶. The long-term results of rubber band ligation are also good and Savioz has reported recurrence rate of 23% after 5-year follow-up¹⁷. Recurrence is common unless the patient alter their dietary habits. Mattana et al. have reported a low recurrence of 9% in patients with normal bowel habits, when compared with constipated patients whose symptoms recurred in 85% cases¹⁸.

Many studies have been done comparing rubber band ligation with hemorrhoidectomy, sclerotherapy, cryotherapy and infrared coagulation. A prospective clinical trial has shown that rubber band ligation abolished or improved prolapse and bleeding as effectively as hemorrhoidectomy¹⁹. Many authors have found rubber band ligation superior to sclerotherapy and infrared coagulation²⁰⁻²¹. A number of modified techniques of rubber band ligation have been developed since Barron introduced rubber band ligation of

hemorrhoids²². These include endoscopic rubber band ligation²³ and a single operator suction-ligator²⁴, which does not require an assistant.

The results of this study are compare-able with studies from Pakistan and abroad;

Outcome of rubber band ligation A comparative review of six studies				
Study	Year	No. Of patients	Follow up	% cured / improved
Zafar "A" ²⁵	2002	100	01 year	82%
Komorozos VA ²⁶	2000	500	02 years	88%
Afttab ML ²⁷	1995	71	03 months	88%
Oueidet DM ²⁸	1994	148	18 months	81%
Adamthwaite DN ²⁹	1983	52	02 yeasr	98%
Murie JA ³⁰	1980	100	01 year	80%

CONCLUSION

The aim of outpatient management of hemorrhoids is to provide a convenient, safe, effective and economical method of treating hemorrhoids. This study shows that rubber band ligation of hemorrhoids full fills most of these criteria and I recommend that rubber band ligation should be the treatment of choice for 1st and 2nd degree hemorrhoids

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