Rubber Band Ligation of Hemorrhoids of First, Second, and Third Degree

Harith Mustafa Alkhateeb M.B.Ch.B., D.G.S., C.A.B.S.

Waleed Qahtan Rajab F.I.B.M.S

Abstract:

Background: Haemorrhoids constitute a frequent clinical problem. A variety of conservative treatment options have been proposed, the majority of which can be safely performed on an outpatient basis, like the rubber band ligation RBL which is selected in this study .[1] The aim of the study is to prove the possibility and benefit of the procedure as a treatment for the first ,second and third degrees of haemorrhoids .

Materials & Methods :For nine years , 540 patients with different degrees of haemorroids were submitted to rubber band ligation as a treatment for their haemorrhoids by using Barron apparatus .

Results: 509 patients (94 %) did well , 31 patients (6%) did not feel better, Three of them (o.5 %) did open haemorrhoidectomy , while 28 patients (5%) kept on conservative measures.

Conclusion: Rubber band ligation is reliable and safe out door procedure for the 1st , 2nd , and 3rd degree haemorrhoids .2

Keywords: Haemorrhoids , Rubber band ligation RBL .

Introduction:

Haemorrhoids are common in men and women. About half of the population has haemorrhoids by the age of 50. It has been estimated that 58% of people over 40 years have haemorrhoids in the United States .[2]

Hemorrhoids have plagued human beings throughout history, perhaps beginning when we first assumed upright posture.[3]

Hemorrhoids are thought to represent engorgement or enlargement of the normal fibrovascular cushions lining the anal canal. It has been postulated that chronic straining secondary to constipation or occasionally diarrhea results in pathologic hemorrhoids. As an individual strains repeatedly over time, these fibrovascular cushions lose their attachment to the underlying rectal wall.

Anal outlet bleeding is most commonly associated with hemorrhoids but may certainly be a harbinger of colorectal cancer. Any individual with rectal bleeding should undergo an appropriate, thoughtful workup to rule out rectal cancer. In a young individual with bleeding associated with hemorrhoidal disease and no other systemic symptoms, and no family history, perhaps anoscopy and rigid sigmoidoscopy are all that is warranted. However, in an older individual, with either a family history of colorectal cancer, or change in bowel habits, a complete colonoscopy should be performed to rule out proximal neoplasia.[7,8,10]

Treatment options for haemorrhoids include:[7,9]

– Rubber band ligation
– Infrared photocoagulation
– Bipolar diathermy
– Sclerotherapy
– Cryotherapy
– Open Haemorrhoidectomy
– Closed haemorrhoidectomy
– Anal dilation
– Pile stitching
– Stapled haemorrhoidectomy

In this study we will discuss the Rubber band ligation only . The RBL for the internal haemorrhoids is widely used since its design by Barron in 1963.[11,12] The low cost of this procedure and its good results in comparison with the other office procedures made it the most common method used by the coloproctologists.[11]

Rubber band ligation is commonly recommended for individuals suffering from Grade I or Grade II hemorrhoids,[12] and, in some circumstances, Grade III hemorrhoids.[7]

Aims of the study: When the Barron`s instrument was designed for the RBL it was recommended to be used for the first and second degrees haemorrhoids, while in this study we try to show

1-The third degree haemorrhoids can be successfully treated by the RBL .

2-A single session of RBL for three haemorrhoids is feasible, tolerable and accepted in most of the cases with no more increase in complications.

Materials and Methods:

From 1994 July 1st to 2004 December 28th, a 540 cases of different degrees of haemorrhoids were treated by RBL as an out - patients office treatmen, Tow hundred and fifteen (40%) underwent RBL of the haemorrhoids in one session by ligation of the only 2 significant haemorrhoids or 2 big with one small haemorrhoids simultaneously, and 313 (58%) patients underwent RBL in two sessions with 3–4 weeks interval by ligation of 2 haemorrhoids at each session, while 12 (2%) patients

underwent three sessions with 3 - 4 weeks intervals and in these conditions ligation was done for the remnant of the big haemorrhoids after falling of its major part in the first or the second session . see **table No.3**

In preparation, the constipated patients are asked to take a prepackaged phosphate enema or laxadyl suppository to pass motion before examination. After anal examination, a slightly larger anoscope is inserted and the hemorrhoid to be banded is identified (generally the largest hemorrhoid is banded first). The hemorrhoid can either be grasped with a modified Allis forceps, or alternatively sucked into the banding instrument with wall suction. Once this has been accomplished, the patient is asked if he or she feels any pain. If pain is perceived when the hemorrhoid is grasped or suction is applied, a band should not be placed in that location.

Instead, the instrument should be advanced proximally in the anal canal until an asensate spot is identified. At this point, the band should be applied. If the patient does not experience any pain or discomfort then the rubber band is applied by depressing the trigger on the hemorrhoid ligature. This treatment is only applicable, of course, to asensate, internal hemorrhoids above the dentate line. Some individuals prefer to band all three hemorrhoids at one setting, however this often results in significant discomfort, however we usually do it in cooperative and thin patients and in patient who doesn't need much manipulation of the proctoscop during the procedure, otherwise it is our practice to ligate two hemorrhoid at the first session if the patient tolerates this well, then at the second session (three weeks later) the third and forth or a remnant of the incompletely ligated very big first and / or second hemorrhoids will be banded. If the first banding, however, has been difficult, then the remaining hemorrhoids will be banded one at a time.

Usually I give the patient prophylactic treatment preferably one day before the session in the form of,metronidazol tab, and broad spectrum antibiotic like ampicillin or sephalosporin capsules for 3–5 days with simple oral analgesic for mild pain or injectable diclophenac sodium for sever pain.

Results:

Out of 540 patients submitted to RBL , 509 (94%) patients got improvement and got rid of almost all the signs and symptoms of the disease From these 509 cases , 214 (40%) cases of the total , they felt good after the first session and they did not return back for the other sessions , while 12 patients (2 %) needed a third session of RBL to complete their therapy .One patient with bleeding haemorrhoids which did not respond to the first session of the RBL , submitted to open haemorrhoidectomy , Another patient did not get benefit from the second session of the RBL and he also underwent open haemorrhoidectomy. A third patient did very well after the second session, but 6 weeks later he developed a severely painful perianal heamatoma, for which he did surgery under general anesthesia .Twenty eight patients did not improve satisfactorily after the second session of RBL (which was done for 313 patients), and they continued on the conservative measures .

Some patients had one or more of the following complications after the RBL :

1-Feeling of heaviness in the anal area : It was present in 110 (20%) patients and they responded to simple analgesics.

2-Pain : It happened in 100 (18.5%) patients and it was usually mild however it was severe in some cases and it was managed by simple analgesics for the mild pain or injectable diclofenac sodium or pethidin or morphin for sever pain which may last for one to two days 3-Bleeding : It happened in 50 (9%) cases and It was mild in most cases and usually occurred in the first day after the RBL or at the fifth to seventh day when the ligated pile necrosed and fell. All cases responded to the conservative treatment .

4-Vasovagal attack : It happened in 37(7%) cases , It occurred either during or immediately after the procedure and it responded to lying down for few minutes .

5-Infection :It happened in 37 (7%) cases at the fifth to tenth day after RBL , most of it were mild , six patients had moderate infection which caused pain and pus discharged from the anus with some blood , All of them were cured by antibiotics and oral metronidazole tablets .

6-Recurrence : After 2 – 8 yrs , 25 patients (4.6 %) returned back with recurrence of the haemorrhoids and they had repeated RBL .

7-Urine retention : It happened in 3 old patient (0.5 %) after the RBL , 2 of them were treated conservatively and one patient needed Foley`s urine catheter for 5 days .

See **table N0. 4**

Table No. (1)

Degree of the piles	Number 0f patients	Percentage
1st	39	7.4 %
2nd	187	34.6 %
3rd	314	58 %

Table No. (2)

Presenting Complain	Number of patients	Percentage
Rectal Bleeding	337	62 %
Anal Itching	325	60 %
Anal Discharge	212	39 %
Anal Pain	187	34 %

1 = Non responding cases
2 = Responding cases
Figure No.1

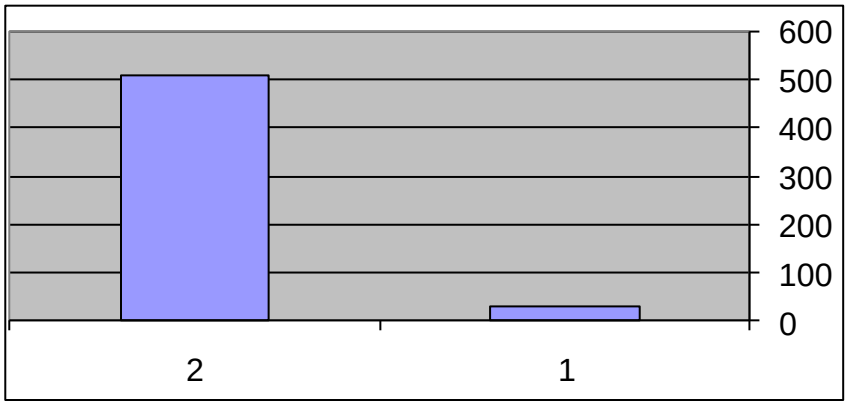

Table No. (3)

No. of sessions	No. of Patients	Percentage
One session	215	40 %
Two sessions	313	58 %
Three sessions	12	2 %

Table No. (4)

Complications	No. of patients	Percentage
Heaviness	110	20 %
Pain	100	18.5 %
Bleeding	50	11 %
Vasovagal attack	37	7 %
Infection	37	7 %
Recurrence	25	4.6 %
Urine retention	3	0.5 %

Discussion:

I collected this number of patients in 9 years which is a long period in comparison to the other studies which had collected the same number within one year because they were a referral centres,

Males number was 532 (98.5 %), with a mean age of 34.8 yr , The females number was 8(1.5 %), with a mean age of 37.5 yr .

This big difference between males and females numbers is due to cultural limitations of the people where the female patients are usually consulting a female doctors for anal and genital diseases, while the similar studies which were done in western countries revealed nearly an equal numbers of males and females, And I will mention some of these studies for comparison .

DiGiorgio et al reported experience banding 304 hemorrhoids over an 18 month period.[16] They found that nearly all patients required multiple sessions with an average of 3.4 bandings per patient. Ninety percent of patients experienced relief of symptoms without further treatment. Twenty percent complained of a dull ache after the procedure, but all others were asymptomatic. No major complications were encountered, As previously mentioned, all hemorrhoids can be banded at a single session or at multiple sessions. Lee, Spencer, and Beart compared multiple vs. single bandings retrospectively.[17] They identified greater discomfort (29% vs. 4.5%) and more vasovagal symptoms (12.3% vs. 0%) with multiple hemorrhoids being banded at a single session. They encountered no major complications and felt multiple bandings to be well tolerated, Bat et al prospectively studied complications in 512 patients undergoing hemorrhoid banding.[18] Minor complications developed in 4.6% of patients including pain, band slippage, mucosal ulcer, and priapism. Hospitalization for major complications was necessary in 2.5%, and included massive hemorrhage, severe pain, urinary retention and perianal sepsis, Savior et al investigated relapse rates following banding in 92 individuals.[19] They found 23% of patients required repeat banding over 5 years and 32% at 10 years, and felt hemorrhoid banding to be a durable procedure, In one of the largest studies of hemorrhoid banding, Bayer Myslovaty and Picovsky followed 2,934 patients banded over a 12 year period.[20] Seventy-nine percent required no further therapy, while eighteen percent required repeat banding due to recurrence. Hemorrhoidectomy was necessary in 2.1% related to persistent symptoms.

Conclusions:

From the results of our study and other studies the RBL is settled as an effective , easy , comfortable, cheap, and practical method for treatment of the first and second degree haemorrhoids, With the same idea and principles we can apply the RBL on the third degree haemorrhoids however, the successful rate is bit lower and complication rate is bit higher than in the 1st and 2nd degree, Some individuals fail to respond whatsoever , or cannot tolerate banding and may require formal haemorrhoidectomy.

References:

1-Peter J. Lunniss. The anus and anal canal. In: N. S. Williams, Ch. J. K. Bulstrode, P.R. O`Connell.Short practice of surgery, 25th ed.Hodder Arnold, UK, 2008; P1253-9

2-Cohen Z. Alternatives to surgical haeorrhoidectomy.Can J Surg 1985;28:230- 231.

3-Hosking SW, Johnson AG, Smart HL, Triger DR. Anorectal varies, haemorrhoids and portal hypertention.Lancet 1989,I;349-52.

4-Thomson WHF . The nature of hemorrhoids.Br J Surg 62:542-552,1975.

5-Hiltunen KM, Matikainen M. Anal manometric findings in symptomatic hemorrhoids. Dis Colon Rectum 1985;28:807-809.

6-Schwartz lS. A Gardner, an institution, a reed for riches. Contemp Surg 1993; 43:138.

7-Peter A. American Society of Colon and Rectal Surgeons; ASCRS ,htm . Cataldo, 2003.

8-Mehigan BJ, Monson JR, Hartley JE. Stapling procedure for haemorrhoids versus Milligan-Morgan haemorrhoidectomy .Lancet 2000;355:782-5.

9-Surgical Treatment of Haemorrhoids; Rene`G. Holzheimer. PRAXISKLINIK SAUERLACH 2001-http://www.praxisklinik-sauerlach.de/

10-Umpleby HC, Britton DC. Manual dilatation of anus and elastic band ligature; Ann R Coll Surg 1983;65:378-9.

11-FERNANDES RHO; CANADI C; BERTUOL I; LONGHI, JA, Rev bras coloproct, 2003, 23(3) 183-186 .

12-Barron J. Office ligation treatment of haemorrhoids .Dis Colon Rectum 1963; 6; 109-113.

12-Scarpa FJ, Hillis W, Sabetta JR. Pelvic cellulitis :a life threatening complication of haemorrhoidal banding.Surgery 103: 383-385, 1988.

13-Kluibr RM , Wolff BG. Evaluation of anemia caused by hemorrhoidal bleeding. Dis Colon Rectum 1994; 37: 1006-1007.

14- O`ReaganPJ. Disposable devices and a minimally invasive technique fpr rubber band ligation of hemorrhoids. Dos Colon Rectum 1999;42(5):683-5.

15-DiGiorgio A Arnone P, Canavese A, et al. Ambulatory treatment of haemorrhoidal pathology with elastic bands according to a modified Annali Italiani di Chirurgia 1997;68(5); 687-92.

16-Lee HH, Spencer RJ, Beart RW Jr. Multiple hemorrhoidal bandings in a single session . Dis Colon Rectum . 1994; 37 (1): 37-41.

17-Bat L, Melze E, Koler M, et al. Complications of rubber band ligation of symptomatic internal hemorrhoids. Dis Colon Rectum 1993;36 (3): 287-90.

18-Savioz D, Roche B, Glauser T, et al . Rubber band ligation of hemorrhoids: relapse as a function of time. Int J of Colorectal Dis 1998;13(4):154. 6.

19-Bayer,Myslovaty, Picovsky. Rubber band ligation of hemorrhoids. Convenient and economic treatment.J Clin Gastroenterol 1996;23 (1):50-2.

Dep. of Surgery, College of Medicine, Tikrit University