REVIEW ARTICLE

CAN RUBBER BAND LIGATION REPLACE HEMORRHOIDECTOMY AS A TREATMENT OF CHOICE FOR 3rd DEGREE HEMORRHOIDS: A REVIEW.

Ali Mohammad Khatri[1] , Ghani Haider[1] , Aliya Hasnain[1], Muhammad Umer Ahmed[1], Wajahat Hussain Wasty[3], Aruna P .Dawani[1]*

[1]*Department of Surgery, Ziauddin Hospital, Clifton, Karachi*

ABSTRACT

Hemorrhoids are a common cause of rectal bleeding with a prevalence of 4 to 40% worldwide, varying in different geographical locations. The current treatment modality for 3rd degree hemorrhoids includes hemorrhoidectomy, but newer methods like rubber band ligation are rapidly gaining popularity. The purpose of our review was to establish if rubber band ligation can replace the traditional hemorrhoidectomy for the treatment of 3rd degree hemorrhoids.All databases were searched for relevant studies. A total of sixteen studies were included in the review. Current national and international literature points out that the results of rubber band ligation are comparable to hemorrhoidectomy and there are lesser complications associated with rubber band ligation.Reviewing the current recommendations, results, evidence and literature, our study recommends rubber band ligation as the treatment of choice for 3rd degree hemorrhoids.

KEY WORDS: Hemorrhoidectomy, Rubber Band Ligation, Hemmoroids

INTRODUCTION

Hemorrhoids are a very common anorectal condition defined as the symptomatic enlargement and distal displacement of the normal anal cushions.Estimates of the prevalence of hemorrhoidal disease in the United States range from 4.4 % to 40%[1]. Although hemorrhoids are recognized as a very common cause of rectal bleeding and anal discomfort, the true epidemiology of this disease is unknown because patients have a tendency to use self-medication rather than to seek proper medical attention. In both sexes, peak prevalenceoccurred between age 45-65 years and the development of hemorrhoids before the age of 20 years was unusual[2].Hard stools, prolonged straining, increased abdominal pressure, and prolonged lack of support to the pelvic floor all contribute to the abnormal enlargement of hemorrhoidal tissue. Pregnancy can also cause hemorrhoids owing to the venous congestion caused by the large gravid uterus and laxity of the supporting tissues caused by the influence of progesterone[3].It is equally prevalent in both males and females but due to the socio-cultural differences between the sexes in our region, it is usually the male population which actually presents with the condition.

Hemorrhoids are caused by the engorgement and dilatation of the veins of the anal cushion causing the downward displacement of the rectal mucosa and henceforth clinically manifesting themselves.

Patients with hemorrhoids usually present with fresh painless bleeding during defecation, mucus discharge, prolapse, sensation of a lump while defecating and pain on defecation.

On examination mostly hemorrhoids are present at 3, 7 and 11 o clock position with the patient in lithotomy position[4].

A hemorrhoid classification system is useful not only to help in choosing between treatments, but also to allow the comparison of therapeutic outcomes among them. Hemorrhoids are generally classified on the basis of their location and degree of prolapse.

They can be classified into two general categories: Internal and external hemorrhoids[1]. Internal hemorrhoids originate from the inferior hemorrhoidal venous plexus above the dentate line and are covered by mucosa, while external hemorrhoids are dilated venules of this plexus located below the dentate line and are covered with squamous epithelium. Mixed (interno-external) hemorrhoids arise both above and below the dentate line. For practical purposes, internal hemorrhoids are further graded based on their appearance and degree of prolapse, known as Goligher's classification: First-degree hemorrhoids (grade I): The anal cushions bleed but do not prolapse; Second-degree hemorrhoids (grade II): The anal cushions prolapse through the anus on straining but reduce spontaneously; Third-degree hemorrhoids (grade III): The anal cushions prolapse through the anus on straining or exertion and require manual replacement into the anal canal; and Fourth-degree hemorrhoids (grade IV): The prolapse stays out at all times and is irreducible. Acutely thrombosed, incarcerated internal hemorrhoids and incarcerated, thrombosed hemorrhoids involving circumferential rectal mucosal prolapse are also fourth-degree hemorrhoids

If left untreated a patient might develop complications such as strangulation, ulceration, thrombosis, gangrene, portal pyaemia and fibrosis[4].

Corresponding Author: Ali Mohammad Khatri *

For first and second degree hemorrhoids conservative medical management is indicated initially which includes dietary modifications i.e. a diet rich in fiber and low in processed foods, increased fluid intake and topical creams. Failure of clinical improvement after conservative measures warrants the use of more invasive techniques which include rubber band ligation, photo-coagulation, injection sclerotherapy and bipolar diathermy.

For more complicated third and fourth degree hemorrhoids open (Milligan-Morgan) or close (Ferguson) hemorrhoidectomy or stapled haemorrhoidopexy is done[4].

Blaisdell first described the ligation technique using a silk suture in 1958 with Barron beginning to use rubber bands in 1963. Rubber band ligation is performed in up to 80% patients with hemorrhoids. The process causes the banded tissue to necrose and slough, with the resultant inflammatory reaction causing refixation of the mucosa to the underlying tissue, eliminating hemorrhoidal prolapse.

This study aims to review the indications, results, complications and prognosis of Rubber Band Ligation and whether or not it can be used as a first line treatment in patients with third degree hemorrhoid.

METHODS

A web based search was used and online databases from PUBMED CONCHRANE and MEDLINE were searched for all relevant studies including the words "hemorrhoids" and "3rd degree", "rubber band ligation" and "hemorrhoidectomy".

All the listed studies were then reviewed for relevance by all the authors. Those deemed appropriate were included in the review after a consensus of all the authors.
A grand total of sixteen studies were included.

DISCUSSION

The study aimed to identify and re-emphasize the effectiveness of rubber-band ligation for third degree hemorrhoids. All the studies reviewed, support the recommendation that RBL is a safe and easy office procedure for the management of third degree hemorrhoids.

Third degree hemorrhoids is a fairly common condition in the spectrum of hemrrhoidal disease. As much as 30-50% patients present at this stage of the disease spectrum[5, 14]. Most patients in subcontinent region are male comparing with Europe where the composition is mixed or equal[5, 7, 15]. Patients presenting with third degree hemorrhoids fall in the 30-50 years age bracket[5, 7, 15].

Bleeding, prolapsed tissue and constipation are the most common presenting symptoms[5, 15]. Hematochezia is the most common symptom, seen in 96-98% patients; followed by prolapsed tissue on defecation in 90% individuals[5, 15].

RBL success rates show little variations in different geographic locations, populations and medical centers, ranging from 80%-90%[6, 8, 13-14, 16]. Overall, the procedure is at least 74% successful with some centers even reporting success rates as high as 100%[6, 8, 15-16].According to one recently published prospective study, 90% patients were satisfied after 1 year of procedure[7].

Another study was conducted focusing on the results of RBL on patients with second degree hemorrhoids when compared with those patients suffering from third degree hemorrhoids. Results showed that 76% patients with third degree hemorrhoids had no residual symptoms 2 weeks after the treatment there was no significant difference in the outcome of both groups[9].Other studies report cure rate as high as 93% after RBL for third degree hemorrhoids and no significant difference between second and third degree[14, 16].

According to a patient symptom based study assessing bleeding and prolapsed tissue, 92% patients reported very good results and 6% had improvement in third degree hemorrhoids[13]. 76% cured, 13% improved grade 3 hemorrhoids[15]. Success rate, defined as complete resolution of pre-procedure symptoms such as bleeding and prolapsed tissue, 2 weeks after the treatment reported at JPMC in Karachi is 74%[15]. 90% patients were asymptomatic after 2 years[14].

A meta-analysis comparing different modes of therapy for hemorrhoids concluded that RBL is the recommended procedure for grade 2 and 3 hemorrhoids[13]. 6-14% patients may require further treatment due to recurrence of symptoms[13].Presence of external hemorrhoids had no influence on success rates[14].After 2-11 years of follow up 70% had no residual symptoms. 27% had mild bleeding but did not require any further surgical management[9]. Most patients' symptoms settle within 2 weeks[6].6% recurrence of third degree hemorrhoids after RBL[7].

A randomized control trial comparing RBL and hemorrhoidectomyconcluded that bleeding, pain or peri-anal discomfort is the commonest complaint after the procedure but with variable proportions in the number of patients in different areas of the globe. Furthermore, bleeding and pain after RBL is much less than after ahemorrhoidectomy and there is no recurrence after either procedure[7, 16].

For third degreehemorrhoids, hemorrhoidectomy has greater chance of complications such as recurrence and significant pain[9]. RBL has results comparable to or better than hemorrhoidectomy[9]. Less than 1% needed hemorrhoidectomy after RBL[9]. Stapled hemorrhoidectomy may be more effective in advanced disease[9].Another prospective study reported significantly more pain after hemorrhoidectomy, similar or lower complication rate compared to RBL and similar cure rate[12]. Recent literature has also advocated safety and efficacy of RBL[12]. Local anesthesia has also been recommended to relieve pain[13].

Most patients with third degree hemorrhoids require more than one session of RBL[8]. Multiple banding in single session resulted in more pain and discomfort[8, 14].

Besides hemorrhoidectomy, RBL has also been proven to be superior to other forms of management of hemorrhoids. Compared to infrared therapy, RBL is more painful but provides better results and lesser recurrence[9]. RBL has also been established to providebetter results than sclerotherapy[9].

RBL is recognized as a safe, quick and cheaperoffice procedure. A study assessing this safety reported no patients had infection after procedure[9]. No needfor admission to the hospital for any reason such as pain or bleeding[8].And only 5% needed absence from work after the procedure[11]. As anesthesia is not required for RBL, it is

also safe in patients with co-morbids who may not be fit for anesthesia due to their co-morbid conditions[11, 13, 16].Ano-rectal hemorrhoids is a benign disease.Safe, easy, effective and less painful methods which allow quicker recovery must be used as first-line of management. Thus, RBL is the procedure of choice for the management of third degree hemorrhoids.

CONCLUSION

From the aforementioned facts and figures therefore it can be concluded that rubber band ligation is an effective treatment modality for 3rd degree hemorrhoids. Rubber band ligation is an easier, less invasive option in comparison to its other counterparts for the treatment of 3rd degree hemorrhoids and therefore can replace it as a treatment of choice.

In Pakistan, RBL is still not performed as first line treatment due to lack of awareness among general surgeons and patients reluctance to try new procedures. Surgeons should realize that by performing the RBL procedure, they are saving their patients from unnecessary pain, bleeding and the risks of anesthesia. These facts should be publicized in seminars, workshops and medical journals so that the general surgeon's confidence grows and they encourage their patients to undergo this safe and effective procedure.

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