

Outcome of Rubber Band Ligation in Treatment of Hemorrhoids: A study of 50 Cases

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Abstract:

Background: Hemorrhoids are important today due to rising sedentary lifestyles, poor diets, and stress, leading to increased cases, healthcare costs, and demand for awareness and effective treatments.

Objective: My study has a goal to analyze the success of rubber band ligation in hemorrhoids of grade I, II, III, to analyze their complication and to see if all symptomatic hemorrhoids should be treated with band ligation at first visit

Methods: A prospective and descriptive study was designed for patients who came to OPD of Chittagong Medical College Hospital from July 2007 to June 2008. Patients having large 1st degree hemorrhoids, 2nd degree and early 3rd degree hemorrhoids were treated.

Results: Rectal bleeding was the most common symptom (100%). Anoscopy showed 6% first degree, 86% second degree and 8% third degree hemorrhoids. Information on presenting symptoms, number of bands applied, response to therapy, complications encountered, number of sessions needed to improve the symptoms, requirement of analgesics, follow-up of the patients, subsequent therapy were documented. Supplementary information was obtained over telephone follow-up. Outcome was categorized as success or failure in which success has been defined as permanent relief of symptoms within follow-up periods. Improvement in symptomatology means rare manifestation of bleeding (< 1 month). Failure has been defined as decrease but no improvement of symptoms. In this study, 88% patient succeeded, 6% improved and 6% failed. 16% patient had bleeding during defecation < 7 days, 8% patient complaints bleeding > 7 days. Recurrence observed in 2% patients. 38% patients required no analgesics. Among the 62% patients who required analgesics 36.8% required for up to 24-hours, 47.37% required for 24-48 hours and 3- patients needed for > 48 hours. All patient attended first follow-up at 7th day, 14% missed second follow-up at 6 weeks and 16% missed third follow-up at 6 months.

Conclusion: Rubber band ligation is a quick, simple procedure requiring no anesthesia, in absence of anorectal pathologies other than hemorrhoids. Though it has some minor complications and chance of recurrence, it is considered as a safe and effective procedure for symptomatic hemorrhoids.

Keywords: Rubber Band Ligation, Hemorrhoids.

Introduction:

Hemorrhoids are enlarged vascular cushions within the anal canal¹. Everybody has anal cushions composed of blood vessels, smooth muscle (Treitz's muscle) and elastic connective tissue in the

submucosa. They are located in the upper anal canal from the dentate line to the anorectal ring (puborectalis muscle)¹. Hemorrhoids result from sliding downward of anal cushion due to disruption of anchoring and flattening action of Treitz's muscle and its richly

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intermingled elastic fibres. Increased understanding of the anatomy of hemorrhoids has led to the development of new procedures to treat them. Initial medical management is recommended for all except the most advanced cases. Dietary alterations including eliminating constipating foods (e.g. cheese), addition of bulking agents, stool softeners and increased intake of liquids are advised. It is often beneficial to change daily routine by adding exercise².

Treatment depends on degree of hemorrhoids. 1st and 2nd degree hemorrhoids generally respond to medical treatment. Non-surgical methods of treatment are sclerosant injection, Barron rubber band ligation, cryosurgery, larks procedure, laser hemorrhoidectomy and infrared coagulation. Hemorrhoids that fail to respond to medical management may be treated with rubber band ligation, injection sclerotherapy, photocoagulation, cryosurgery, excisional hemorrhoidectomy³.

Among the surgical options for intractable prolapsed hemorrhoids, formal hemorrhoidectomy now competes with stapled hemorrhoidopexy. Over the past few decades, increasing interest has developed in the use of minor procedures for the treatment of piles, because with the classical method of hemorrhoidectomy the patient must remain in hospital for several days at least, there is some degree of discomfort which is not infrequently severe, and following discharge from hospital, the patient has to remain off work for some time. In 1954, Blaisdel described an instrument for ligation of internal hemorrhoids as an outpatient procedure. In 1962, Barron modified this instrument and presented two series reporting excellent results. Any individual who has hemorrhoids manifested by bleeding, prolapse, or both is a candidate for this procedure. No anesthetic is required, but the rubber band must be placed on an insensitve area usually at or just above the dentate line. Several treatments spaced over 3-4 weeks interval may be required depending on how many pile sites must be eliminated to alleviate the symptoms. In our country, a great percentage of the population is uneducated. Those patients suffering from hemorrhoids seek advice from unauthorized persons who treat hemorrhoids by different methods even with application of corrosive agents which are rather harmful. Those patients who are afraid of operation think treatment easier to the traditional village doctors, many of whom express themselves as piles specialists^{4,5}.

If simple treatment for hemorrhoids like rubber band ligation as an outpatient basis without anesthesia made available to the patients, they will be more interested to take scientific treatment rather than to be maltreated by unauthorized persons. Due to the fact that the intensity of hemorrhoidal complaints may rapidly change, also numerous therapeutic approaches of minor effectiveness are considered as helpful remedy, however, the advantage of Barron band ligation is not seriously doubted. This is a small scale study, the purpose of which is to assess the outcome of treatment with rubber band ligation, follow-up of the patients to see the need of further treatment. Rubber band ligation has additional advantage of not requiring hospital stay or anesthesia and is therefore considered to be the most appropriate method of treatment for 2nd degree hemorrhoids⁶.

Materials and Methods:

This study was carried out in Department of Surgery, Chittagong Medical College Hospital, Chittagong, Bangladesh.

Study was done from July 2007 to June 2008 (1 year)

This study included 50 patients with hemorrhoids in the hospital within the period of study. Cases were selected from both outpatient and inpatient departments who were considered to be suitable for band ligation. 50 consecutive patients, Non-randomized purposive sampling. Patients having symptomatic hemorrhoids attending at surgery outpatient department of Chittagong Medical College Hospital from July 2007 to March 2008 were examined and those patients were selected who were considered suitable for banding. Five cases were selected from in patient department of surgery who were admitted for treatment of symptomatic hemorrhoids. Four patients having hemorrhoids with severe anemia were selected for this study. They got admitted because they also needed blood transfusion. Total 9 patients were treated as indoor patients. The rest 42 cases were treated as outpatients who left hospital within 2-4 hours after the procedure. They were advised to come for follow up at 6th day, 6th week and 6th month.

All patients were clinically examined and routine investigations were done before the procedure.

Before treatment it was confirmed that there was no serious associated disease in the rectum or anal canal. After proctoscopy, cases were selected for rubber band ligation who were free from anorectal pathologies other than hemorrhoids.

The following cases were excluded from the study:

1. Thrombosed or prolapsed hemorrhoids
2. External hemorrhoids
3. Associated skin tag or rectal prolapse
4. Patients of hemorrhoids with anal fissure
5. Immunocompromised patients

Results:

Table-I

Sex Distribution of the patients (n=50)

Sex	No. of patients	Percentage(%)
Male	34	68
Female	16	32
Total	50	100

The table shows that among the selected 50 cases, 34 were male and 16 were female.

Table-II

Age Distribution of the patients (n=50)

Age group	No. of patients	Percentage (%)
<30years	14	28
31-40years	21	42
41-50years	9	18
51-60years	4	8
>60years	2	4
Total	50	100

The table shows that most of the patients (21) were between ages 31- 40 years. 9 patients belonged to age group 41 - 50 years and 4 patients belonged to age group 51-60 years. Only 2 patients were above 60 years age and 14 patients were below 30 years.

Table-III

Clinical presentation (n=50)

Presenting Symptoms /Signs	No. of patients	Percentage (%)
Perrectal bleeding	50	100
Discharge	8	16
Prolapse during defecation	43	86
Anemia Mild	29	58
Moderate	6	12
Severe	2	4

The table shows that all patients presented with per rectal bleeding. Discharge was present in 16%

patients and 11% had prolapse in addition to bleeding. Total 74% patient presented with anemia (mild anemia 58%, moderate anemia 12% and severe anemia 4%).

Discussion:

Rubber band ligation has become a popular method of treatment for internal hemorrhoids^{12,13,14}. The exact incidence of hemorrhoids is difficult to estimate as many people are reluctant to seek medical advice for various personal, cultural and socio-economic reasons, but epidemiologic studies report a prevalence varying from 4.4% in adults in the United States to over 30% in general practice in London^{15,16}. Symptoms vary with conditions like repeated straining, changes in diet or work pattern, pregnancy. Sufferers may undergo periods of relapse and remission. Hemorrhoidal bleeding is bright red, prolapse occur with a bowel movement and is associated with an uncomfortable sensation of fullness and incomplete evacuation. Soiling may occur in 3rd and 4th degree hemorrhoids as a result of impaired continence or production of mucous discharge^{7,8,17}.

In this study, all patients presented with bleeding per rectum. Many of them had prolapse during defecation (86%) and with perianal discharge (16%). Anemia due to hemorrhoidal bleeding responded to treatment. I found in my study 74% patient presented with anemia. 58% were mildly anemic, 12% moderately anemic and 4% presented with severe anemia as due to late presentation. Duration of symptoms before 1st attempt of rubber band ligation was various. 18% patients came with symptoms for 1 month, 42% within 2 to 6 months, 26% within 6 months to 1 year and 14% presented with symptoms more than 1 year. Proctoscopic findings of the patients on present series selected for rubber band ligation was 1st degree hemorrhoids^{6,18}, 2nd degree hemorrhoids 86% and 3rd degree hemorrhoids 8%. Before treatment, it was confirmed that there were no serious associated disease in the rectum or anal canal. After proctoscopy, cases were selected for rubber band ligation who were free from anorectal pathologies other than hemorrhoids and degree of hemorrhoids were considered to be suitable for banding. 50 patients underwent rubber band ligation in this study. Out of them, 20 patients were treated in a single session. 23 patients needed two sessions and 4 patients needed three sessions to improve symptoms. 88% patients

had successful results and no further treatment required. 6% patients required further medical treatment (one patient developed anal fissure, improved by application of 0.2% GTN, 2 patients improved by NSAID and antibiotic), 3% patients showed no improvement and treated surgically afterwards. David M. Steinberg and H. leugois¹⁸ conducted a study in proctoscopic clinic, Birmingham and found a success of 89% with rubber band ligation. 2% patients required further surgical treatment and 9% improved with medical management. Result from this present series is similar to good efficacy of rubber band ligation observed in series by Mr. PC Gartell, RJ Sheridan and FP. McGinn¹⁹. They did rubber band ligation of 106 patients and after follow-up successful result observed in 89% patients. F. Greca, MM Hares and colleagues²⁰ showed a symptomatic result in 82 patients after a 12 month follow-up. 24.64% patients were symptom free and complication recorded in 6.9% patients, 3.6% needed hospital admission. The present study showed some complications. 2% patients developed anal fissure, 6% had temporary prolapse of hemorrhoids, 5.26% got band dislodgement. V. Arabi and colleagues showed immediate complication of pain and bleeding in 27% cases.

In this series, 16% patient complained of pain and 24% had bleeding. For pain relief, analgesic requirement was maximum 48 hours. Only 3 patients needed NSAID for more than 48 hours.

John A Murie et al showed a study of 50 patients undergone rubber band ligation. The procedure was painless in 10% patients and produced pain for > 48 hours in 15 patients. In this study, the procedure was painless in 62% patients and produced pain in 38% patients. 31 patients needed no analgesics and 19 patients needed analgesics. My study got similar result (in case of pain during and after the procedure) as study conducted by FC Cheng, DW. Shum and GB Ong¹¹. They showed rubber band ligation was painless in 26 patients out of 30.

Conclusion:

Rubber band ligation should be considered as a preferred treatment for 2nd degree and selected cases of 3rd degree hemorrhoids due to its effectiveness, cost benefit and short term morbidity. It offers the possibility of a definitive, ambulatory with least risk solution to without necessity of hospitalization and

anesthesia, repeatable in the time and with minimum percentage of complications. Surgery may be reserved for the most severe cases and external hemorrhoids. Though it has some failure rates, options for further treatment remain open. Thus, it may be considered first treatment as office procedure. In this study, low rate of major complications justify this method for the treatment of symptomatic hemorrhoids.

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