



Assessments of the symptoms at follow up and Cost effectiveness of Hemorrhoids patients treated by Barron Band Ligation

KEYWORDS

Rubber band ligation, Cost of treatment, Time of work, symptoms at follow up

Bharat Chandra

Seema Kumari

Rajesh Kumar suman

Surgeon, Department of Surgery,
Mysore Medical College

Medical Officer, Sri Krishna Medical
College and Hospital

tutor, Department of Pharmacology,
MGM Medical College

ABSTRACT

OBJECTIVE: The objective of the study is to evaluate the cost of treatment effectiveness of rubber band ligation treatment hemorrhoids at regular follow up.

METHODS: This is a prospective study of 120 cases who underwent rubber band ligation as an outpatient procedure for internal haemorrhoids.

RESULTS: One hundred twenty patients underwent rubber band ligation as a outpatient procedure for internal haemorrhoids. The amount of money spent post procedure for pain relief and to manage complications with hospital visits was arbitrarily divided into groups who spent Rs. 100-150, Rs. 150-200 and Rs. 200-250. Maximum number of cases about 60% spent Rs. 100-150 following rubber band ligation. The effect of rubber band ligation on symptom improvement was assessed using parameters as bleeding, pain, prolapse, pruritis, mucous discharge, anal stenosis and anal incontinence. At second week post rubber band ligation, bleeding seen in 90% cases at presentation decreased to 30%, which further decreased to 15% at 1 month. Pain seen in 30% of cases at presentation decreased to 15% at second week and 10% at 1 month. 80% cases assessed treatment as excellent and 20% with some residual symptoms assessed the treatment as of moderate help. Maximum number of case 70% returned to work the next day, only 10% cases took off work for more than 4 days, whereas 20% were off work for 1 to 3 days.

CONCLUSION: Rubber band ligation was found effective based on significant symptom improvement with 80% symptom free at follow up, assessing the treatment as excellent with 70% requiring pain relief post procedure and 60% showing slight discomfort post procedure lasting 1-2 days. Rubber band ligation was found cost effective with 60% cases spending 100-150 rupees. 70% of patients took no time off work after rubber band ligation.

INTRODUCTION

Hemorrhoids also called piles are swollen and inflamed veins in anus and lower rectum. Hemorrhoids may result from straining during bowel movements or from the increased pressure on these veins during pregnancy, among other causes. Hemorrhoids may be located inside the rectum (internal hemorrhoids), or they may develop under the skin around the anus (external hemorrhoids). The Haemorrhoid can occur at any age group and can affect both sexes. Their diagnosis and management is complicated by their relative infrequency and wide range of biological behavior. Although many patients present with symptomatic disease, many do not and some never have symptoms, whether such individuals can be considered to have a disease must remain a moot point. So only symptomatic patient with haemorrhoids should be taken into consideration as a diseased. Although the condition is rarely life threatening. Haemorrhoids have plagued humans since they attained the erect posture.²

Rubber band ligation (RBL) is an outpatient treatment for internal hemorrhoids of any grade. With rubber band ligation, a small band is applied to the base of the hemorrhoid, stopping the blood supply to the hemorrhoid mass. The hemorrhoid will shrink and die within a few days with shriveled hemorrhoid tissue and band will falling off during normal bowel movements likely without the patient noticing. Rubber band ligation is a popular procedure for the treatment of hemorrhoids, as it involves a much lower risk of pain than surgical treatments of hemorrhoids, as well as a shorter recovery period. There are very few study which

have calculated cost of treatment in hemorrhoids patients treated by Barron band ligation. Thus the present study has been designed.

OBJECTIVES

- To know the cost effectiveness, and time off work of hemorrhoids patients treated by Barron Band Ligation.
- To assess the symptoms in hemorrhoids patients treated by Barron Band Ligation at follow up

MATERIAL AND METHODS

1. Place of study: The present study was conducted in the Department of Surgery in K.R. Hospital, Mysore, attached to Mysore Medical College and Research Institute, Mysore, over the duration from January 2011 to July 2012.
2. Study Type: The study was prospective study of evaluation of effectiveness of rubber band ligation in internal hemorrhoids. The study was approved by Institutional Ethical Committee.
3. Sample Size: 120 cases of hemorrhoids were chosen with complaints of bleeding per rectum, pain during detection, mass per rectum, discharge and irritation.
4. Willing patients were selected and examined and investigated as per proforma. The detailed history of each patient was taken with personal history, family history, diet

history .Analysis was made on the basis of percentage, mean, standard deviation and binomial probability tests.

5. Procedure: Rubber band ligation was done in minor operation theatre for this study.

6. Cost of treatment was assessed from standard Pharmaceutical sources and Assessment of patients were done at regular follow up basis.

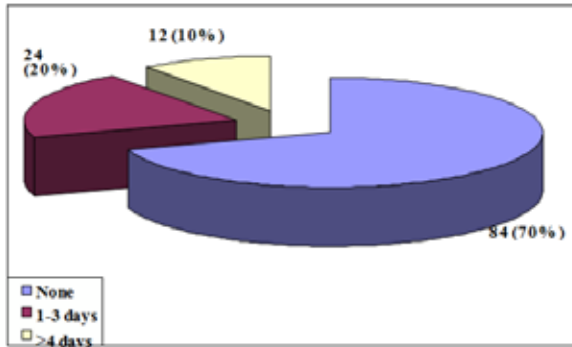
RESULTS

Total 120 patients have been assessed to fulfill the committed objective.

Time off work

Post rubber band ligation the patients were assessed for time spent without going for work as no time off work, 1 to 3 days off work or > 4 days off work. Maximum number of case 70% returned to work the next day, only 10% cases took off work for more than 4 days, whereas 20% were off work for 1 to 3 days.

Figure 2: Time off work



Cost of treatment

The amount of money spent post procedure for pain relief and to manage complications with hospital visits was arbitrarily divided into groups who spent Rs. 100-150, Rs. 150-200 and Rs. 200-250. Maximum number of cases about 60% spent Rs. 100-150 following rubber band ligation.

Table 1: Cost of treatment

Cost of treatment (Rs.)	Number of cases	Percentage(%)
100-150	72	60
150-200	30	25
200-250	18	15
Total	120	100

Symptoms at follow up

The effect of rubber band ligation on symptom improvement was assessed using parameters as bleeding, pain, prolapse, pruritis, mucous discharge, anal stenosis and anal incontinence.

Table 2: Effect of rubber band treatment on symptom improvement

Symptoms	At presentation		At 2 nd week		At 1 month		At 6 months	
	No.	%	No.	%	No.	%	No.	%
Bleeding	108	90	36	30	18	15	12	10
Pain	36	30	18	15	12	10	6	5
Prolapse	24	20	18	15	6	5	-	-
Anal stenosis	-	-	-	-	-	-	-	-
Anal incontinence	-	-	-	-	-	-	-	-
Irritation	30	25	-	-	-	-	-	-
Discharge	24	20	-	-	-	-	-	-

Bleeding	108	90	36	30	18	15	12	10
Pain	36	30	18	15	12	10	6	5
Prolapse	24	20	18	15	6	5	-	-
Anal stenosis	-	-	-	-	-	-	-	-
Anal incontinence	-	-	-	-	-	-	-	-
Irritation	30	25	-	-	-	-	-	-
Discharge	24	20	-	-	-	-	-	-

At second week post rubber band ligation, bleeding seen in 90% cases at presentation decreased to 30%, which further decreased to 15% at 1 month. Pain seen in 30% of cases at presentation decreased to 15% at second week and 10% at 1 month. Prolapse observed in 20% of cases at presentation decreased to 15% at second week and 5% at 1 month. At 6 months, 10% of cases still had bleeding and 5% had pain.

Patient assessment of treatment

After follow up patients were asked to assess treatment as excellent of moderate help or of little help, depending on patient's satisfaction with the treatment. 80% cases assessed treatment as excellent and 20% with some residual symptoms assessed the treatment as of moderate help. None assessed treatment as of little help.

Table 3: Patient assessment of treatment

Patient assessment of treatment	Number of cases	Percentage
Excellent	96	80
Moderate help	24	20
Little help	-	-
Total	120	100

DISCUSSION

Rubber band ligation proved to be a simple technique to acquire did not need expertise or too much skill. Rather no anaesthesia, no pre-procedure elaborate work up. No expensive equipment and no need for bed rest. Patients were made ambulatory and treated as day cases.

Time off work

Post rubber band ligation number of days taken off without going to work was estimated and arbitrarily divided into groups when no days were lost, 1-3 days lost and > 4 days lost. 70% of the present study group lost no days off work, comparable with 68% of Anthony R Groves. 25% had 1-3 days off work comparable to 12% of Arabi et al¹ and a least of only 5% cases in present study had >4 days of work comparable to 5.8% in Arabi et al¹

Symptoms at follow up

The effect of rubber band ligation on symptom improvement was assessed using parameters as bleeding, pain, prolapse, pruritis, mucous discharge, stenosis and incontinence. At second week post rubber band ligation, bleeding seen in 90% cases at presentation, decreased to 30% which further decreased to 15% at 1st month. Pain seen in 30% of cases at presentation decreased to 15% at 2nd week and 10% at 1st month. Prolapse observed in 20% cases at presentation decreased to 15% at 2nd week and 5% at 1st month.

Patient assessment of treatment

Depends on the responses to the questionnaire put forward to patients to follow up regarding their satisfaction with treatment by rubber band ligation. Patients categorized treatment as either excellent, of moderate help, or of little help and compared with other studies. 80% of the present study cases remarked as excellent comparable to 72% in Murie et al.,⁵ 20% assessed treatment⁵ as of moderate help similar to 16.5% in Murie et al.⁵ None of the cases assessed it as of no help. This self-assessment by patients has been important in knowing patient acceptance, which was high as 80% cases assessed the treatment as excellent.

Cost of treatment

The patients expenditure for treatment and during follow up was questioned and the expenses were arbitrarily divided into groups spending Rs. 100-150, Rs. 150-200 and Rs. 200-250. Sixty per cent of cases reported as saying they spent 100-150 rupees, 25% as 150-200 rupees and 15% as 200-250 rupees. This being an outpatient procedure is much less expenditure other forms of treatment as assessed by Barzital who found office procedure of Rubber band ligation 1/10th⁷ the cost of surgery Poon et al.⁶ and Lee et al.⁷ have also acknowledged the cost effectiveness of Rubber band ligation.

CONCLUSION

This prospective study of 120 cases who underwent rubber band ligation was done to evaluate the effectiveness in treatment of symptoms of second degree haemorrhoids with reference to post procedure complications, post ligation discomfort, time off work, cost effectiveness. Rubber band ligation was found effective based on significant symptom improvement with 80% symptom free at follow up, assessing the treatment as excellent with 70% requiring pain relief post procedure and 60% showing slight discomfort post procedure lasting 1-2 days. Rubber band ligation was found cost effective with 60% cases spending 100-150 rupees. 70% of patients took no time off work after rubber band ligation.

REFERENCE

1. Keighley and Williams. Surgery of anus, rectum and colon. 3rd ed. Vol 1. Philadelphia: Saunders Publications; 2008. p.351-422. | 2. Corman ML. Hemorrhoids. 5th ed. In: Colon and rectal surgery. Philadelphia: Lippincott Williams & Wilkins; 2004. p.177-253. | 3. Anthony R Groves, John CW Evans, Alexander J Williams. Management of Internal Haemorrhoids by Rubber Band Ligation. Br J Surg 1971 Dec; 58(12):923-4. | 4. Arabi Y, Gatehouse D, Alexander J Williams, Keighley MRB. Rubber band ligation or lateral subcutaneous sphincterotomy for treatment of haemorrhoids. Br J Surg 1977;64:737-40. | 5. Murie JA, Sim AJW, Mackenzie I. Rubber band ligation versus haemorrhoidectomy for prolapsing Haemorrhoids. A long term prospective clinical trial. Br J Surg 1982;69:536-8. | 6. Poon GP. Conventional Vs. Triple Rubber band ligation of Haemorrhoids. | A prospective randomized trial. Dis Colon Rectum 1986;836-8. | 7. Henry H Lee, Robert J Spencer, Robert W Beart Jr. Multiple Haemorrhoidal bandings in a single session. Dis Colon Rectum 1994;37:37-41. |