



## Use of Rubber Band Ligation and Micronized Flavanoid in the Treatment of Hemorrhoid: A Comparative Study

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### Abstract

**Background:** Hemorrhoid is a common cause of per rectal bleeding of all sexes. There are many options for the management of hemorrhoid depending on symptoms and degree of hemorrhoids. Rubber band ligation and micronised flavanoids (Oral Agent) have used in early symptomatic hemorrhoid.

**Aims:** To find out the effectiveness of rubber band ligation (RBL) and micronized flavanoid in the treatment of hemorrhoid.

**Patients and Methods:** Uncomplicated 120 patients with 1<sup>st</sup> and 2<sup>nd</sup> degree hemorrhoid were selected by proctoscopy. RBL and 'Oral Agent' were applied to 60 patients each. Recovery from bleeding, time needed to relief symptoms and presence of complication were observed to measure outcome.

**Results:** Complete cure from bleeding seen with 91% cases of rubber band ligation and 82% cases after 'Oral Agent' use. Early cure seen after RBL and that was 3<sup>rd</sup> day after use. After RBL and 'Oral Agent' application 95% and 85% showed their satisfaction regarding treatment.

**Keywords:** Hemorrhoid, Rubber Band Ligation, Micronised Flavanoid.

### Introduction

Rupture of dilated haemorrhoidal vessels causes painless per rectal bleeding and usually common in both male and female<sup>1</sup>. Haemorrhoid presents as external or internal in relation to the dentate line. Primary hemorrhoid located in three position as 3, 7 and 11 o'clock position. According to the extension of disease haemorrhoid is classified as 1<sup>st</sup> degree: Bleeding piles without prolapsed. 2<sup>nd</sup> degree: Bleeding with prolapsed and reduce

spontaneously. 3<sup>rd</sup> degree: Bleeding hemorrhoid with prolapsed that need digital reduction and 4<sup>th</sup> degree: Prolapsed hemorrhoids unable to reduce<sup>2</sup>. 1<sup>st</sup> and 2<sup>nd</sup> degree considered as early stage and 3<sup>rd</sup> and 4<sup>th</sup> degree considered as advance disease. Advanced stages of haemorrhoids needs surgical intervention<sup>3</sup> but for early stage disease there are multiple treatment options with variable success rates. This includes rubber band ligation (RBL), sclerosant injection, cryosurgery, electro

coagulation and 90% diosmin and 10% hesperidin (Oral Agent)<sup>4</sup>.

RBL is safe, effective, convenient and easy to apply acts mechanically strangulating pedicle of hemorrhoids<sup>4</sup>. (Oral Agent) causes prolong contraction of hemorrhoidal veins increase local lymphatic drainage and decrease synthesis of PGE2 and Thromboxane A2 responsible for local inflammation<sup>5</sup>. Both procedure have minimum side effects like mild GIT and local inflammation. Both options are widely practiced with variable success. That's why this study was done to find out effective treatment of early symptomatic hemorrhoid.

### Material and Methods

This prospective study was carried out on 120 OPD patients of Border Guard Hospital Peelkhana, Dhaka, after adequate counseling of treatment. Patients were selected by proctoscopy examination seeking treatment for per rectal bleeding. Complicated piles, 3<sup>rd</sup> and 4<sup>th</sup> degree piles and treated surgically earlier for hemorrhoids were excluded from the study. RBL was applied on 60 OPD patients with the help of RBL application set up. Whereas the 'Oral Agent' was given to another 60 patients with a schedule of 3 tab. twice daily for 4 days then 2 tab twice daily for 3 days and finally 1 tab twice daily for 2 months. All patients were followed up on 3<sup>rd</sup> and 7<sup>th</sup> day and 2<sup>nd</sup> week, 6<sup>th</sup> week and on 12<sup>th</sup> week after treatment. State of per rectal bleeding, appearance of any new local or general symptoms and patient's satisfaction were observed. During each follow up treatment outcome were measured as a group. Group a: complete cure on history and examination. Group b: minimum symptoms remaining. Group c: no improvement at all. Group d: new symptoms appeared.

### Results

In this study mean age of the patients were 38±2.4 years and 40 ±1.9 years in RBL and 'Oral Agent' group and male female ratio was 2.5 :1 and 1.4 : 1 respectively. Average duration per rectal bleeding

before treatment was 5.6±2.5 days and 6.3±1.7 days. Pain, constipation and Pruritus Ano were commonly associated symptoms of both groups. On proctoscopy 43.33% (26) and 56.66% (34) had 1<sup>st</sup> and 2<sup>nd</sup> degree haemorrhoids of RBL group. In 'Oral Agent' group 35% (21) and 65% (39) patients had 1<sup>st</sup> and 2<sup>nd</sup> degree hemorrhoids.

It was observed that after application RBL complete arrest of bleeding within 7 days found in 80% patients and in After 'Oral Agent' application it was 76.66%. After 12 weeks of treatment, complete cessation of bleeding found 86.66% and 88.33% in RBL group and 'Oral Agent' group respectively. Non response seen 9.16% (11) and 7.5% (9) cases of RBL and 'Oral Agent' group. Two patients of both group needed surgical intervention within 12 weeks due to worsening symptoms.

**Table1:** General parameters of both groups included for treatment

Parameter	Rubber Band Ligation	Oral Agent
Age	38±2.4 yrs	40 ±1.9 yrs
Sex		
	Male	43 (71.66%)
	Female	17 (28.33%)
Bleeding		
	Mild (Few ml)	38 (63.33%)
	Moderate (<100ml /day)	18 (30%)
	Severe (>100ml /day)	4 (6.66%)
Associated symptoms		
	Peri anal pain	
	Constipation	
	Prolapsed	
	Pruritus ani	
Proctoscopy		
	1 <sup>st</sup> degree	26 (43.33%)
	2 <sup>nd</sup> degree	34 (56.66%)

**Table 2:** Arrest of bleeding after treatment

Arrest of bleeding	Rubber band ligation	Oral Agent
1 <sup>st</sup> week	48 (80%)	46 (76.66%)
4 <sup>th</sup> week	50 (83.33%)	52 (86.66%)
6 <sup>th</sup> week	50 (83.33%)	53 (88.33%)
12 <sup>th</sup> week	52 (86.66%)	53 (88.33%)

**Table 3:** Response pattern of treatment of both groups

Response type	RBL	Oral Agent
a	52 (86.66)%	53 (88.33)%
b	4 (6)%	5 (8.33)%
c	4 (6)%	3 (5)%
d	1 (1)%	0
e	4 (6)%	5 (8.33)%

a: complete cure of bleeding

b: remaining minimum symptoms

c: no response

d: Condition worsening after treatment

e: relapse after treatment

### Discussion

Bleeding through anus is commonly associated with haemorrhoids both in male and female<sup>6</sup>. Primary haemorrhoids were commonly found in 3, 7 and 11 o'clock position around anus. Surgical treatment is reserved for both 3<sup>rd</sup> and 4<sup>th</sup> degree<sup>6</sup>. In this study haemorrhoids were present at the end of 3<sup>rd</sup> decade of life and male female ratio was 1.4:1. Patients were presented with mean duration of bleeding were 5.6±2.5 days in RBL and 6.3±1.7 days in 'Oral Agent' group. In 1<sup>st</sup> visit at the end of 7<sup>th</sup> day 80% and 76.66% patients experienced complete arrest of bleeding in RBL and 'Oral Agent' treatment respectively. At the end of 12 weeks 86.66% and 88.33% of RBL and 'Oral Agent' treatment experienced complete cessation of bleeding. Achievement of success is similar in both group and statistically significant but difference between groups is not significant. Few patients needed surgical intervention as condition worsening after treatment that is 9.16% of RBL and 7.5% of 'Oral Agent' category needed surgical treatment. Disease reappear after 12 weeks of 6% of RBL and 8% (Oral Agent) treatment.

### Conclusion

Rubber band ligation had rapid action on 1<sup>st</sup> and 2<sup>nd</sup> degree haemorrhoids to arrest bleeding. Micronized flavanoid had similar action on arrest haemorrhoidal bleeding but takes a bit longer time to act upon. Both methods had similar success in

controlling haemorrhoidal bleeding. Micronized flavanoid is less convenient as it is costly and needs prolong intake of medicine.

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