Efficacy of rubber band ligation in third degree hemorrhoid

Shrestha S,[1] Shah S,[1] Shrestha J,[1] Shah JN[2]
[1]Lecturer, [2]Professor

Department of surgery, Patan hospital, Patan academy of health sciences (PAHS), Lalitpur, Nepal

ABSTRACT

Introduction: Rubber band ligation (RBL) is an effective treatment in symptomatic 1st and 2nd degree hemorrhoids. The aim of this study was to assess the outcome, effectiveness and complications RBL as out patient procedure for symptomatic 3rd degree hemorrhoids.

Method: Seventy one patients with symptomatic third degree hemorrhoids underwent rubber band ligation in the department of surgery at National Academy of Medical Sciences, Patan hospital and Shree Birendra Army hospital. Nine defaulters were excluded from the study and data on 62 patients were analysed. Outcome measures were symptomatic cure i.e. stoppage of bleeding and reduced mucosal prolapse. Complications were categorized as immediate (within 1 hour), early (within one week) and late (within 6 weeks).

Result: There was symptomatic improvement (stoppage of bleeding and reduced mucosal prolapse) in 47 (75.8%) patients. Four patients required repeat banding. In 15 (24.2%) patients hemorrhoidectomy was performed due to failure of RBL. Pain and bleeding was common immediate and intermediate complication respectively.

Conclusion: Rubber band ligation is an effective, outdoor procedure for symptomatic 3rd degree hemorrhoids with acceptable morbidity.

Keyword: hemorrhoids, hemorrhoidectomy, office procedure, rubber band ligation

CORRESPONDENCE

Dr Samir Shrestha
Lecturer, Department of Surgery
Patan Academy of Health Sciences
Email: samir_shrestha99@yahoo.com

Introduction

Hemorrhoids are a common disease. It affects in various degrees in 50% of people over the age of fifty.1 Symptoms of hemorrhoids include bright red painless bleeding, mucous discharge, prolapse, itching and occasionally pain. RBL is a non resective treatment of hemorrhoid. In 1954, Blaisdel invented the first automatic ligator for hemorrhoids, which was modified by Barron in 1962. This has replaced hemorrhoidectomy in 45% of case.2 Although it is not associated with the problems that follow the typical surgical treatment of hemorrhoid2, the method is not free of complications viz; pain, bleeding, mucus discharge, vasovagal episodes, urinary discomfort, fistula in ano etc and even deaths have been reported to occur in immunocompromised patients.

RBL has shown to be superior to the injection sclerotherapy and other treatment modality though it bears mild degree of morbidity. The disadvantage of this procedure is no pathological specimen is obtained; therefore some cases of anal cancer may be overseen.

Traditionally RBL has been used in treatment of 1st and 2nd degree hemorrhoids. Recently it has been used in 3rd degree hemorrhoids with greater efficacy. The aim of this study was to assess the outcome, effectiveness and complications RBL as out patient procedure for symptomatic 3rd degree hemorrhoids.

Method

This cross sectional study was conducted after being approved by Institutional Review Board in National Academy of Medical Sciences, Patan hospital & Shree Birendra Army hospital from January 2007 to December 2008 for a period of two years.This study was conducted by the senior surgical residents posted in the respective institution under the guidance. All patients scheduled to undergo band ligation during the study period who met the inclusion criteria (symptomatic third degree hemorrhoid – hemorrhoid that needs manual reduction after act of defecation) were enrolled after a written informed consent. Exclusion criteria of this study were external hemorrhoids, age (below 15 years and above 70 years), liver cirrhosis and portal hypertension, associated anorectal pathology(- anorectal abscess, fistula in ano, fissure in ano), diabetes, compromised cardiopulmonary status and 1st ,2nd and 4th degree hemorrhoid. Enrolled patients were explained about the procedure, its complications & Visual Analogue Scale for pain. The scale ranged from 1to10, with 1 being the mildest and 10 being the most severe pain. Preoperatively, a thorough history, physical examination and investigations were reviewed. Variables like pain during defecation, bleeding per rectaum, constipation, prolapse of hemorrhoidal venous cushion etc were studied. Rigid proctosigmoidoscopy was done at same setting in the OPD after soap water enema to assess the degree of hemorrhoid, its location and to rule out any associated bleeding & anorectal pathology prior intervevtion. After that RBL was performed with the help of assistant at OPD. The hemorrhoidal cushion was grasped with allies forcep and pulled caudally through proctoscope and loaded band was fired using Barron's gun, so as to stangulate the venous pedicle above the dentate line. At least two band were applied per setting. Patient were given stool softner and analgesic (on demand) after procedure.They were advised to follow up in one and six weeks respectively. Statistical analysis of the data was done using SPSS (Statistical Package for Social Sciences) for Windows version 11.5. Independent "t" test and Chi square test were used for statistical analysis. The 'p' value of less than 0.05 was regarded as significant with a confidence interval of 95%.

Result

There were 71 patients with 3rd degree hemorrhoids. Nine defaulters were excluded during the course of study as they didn't turned for follow up. Altogether 62 patients data were analysed. Male were 48 (77.4%) and female14 (22.6%). Age ranged from 16 to 69 years, mean 37 years and standard deviation of 14.5 years. Mass protrusion 62 (100%), bleeding per rectum 48 (77.4%), painful defecation and constipation comprises 53.2% & 64.5% respectively. Pain in immediate post operative period was seen in 31 patients (50%) and bleeding in 20 (32.3%). Urinary retention, vasovagal attack & itching were present in 6.5%, 4.8% & 1.6% respectively. Rectal tenesmus was complained by 9.7% and 4.8% of the patients during 1st and 2nd follow up respectively. Urinary tract infectin and erectile dysfunction were complained by 3 (4.8%) and 1 (1.6%) patient respectively.

Figure 1. Clinical presentation of 3rd degree hemorrhoid (n=62)

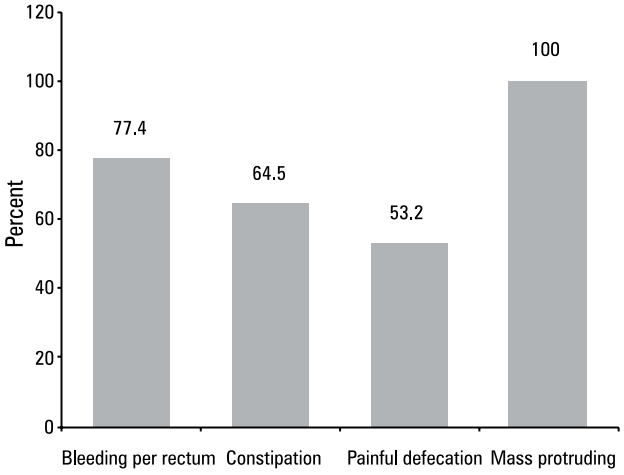

Table 1. Severity of pain immediately after rubber band ligatgion (RBL) for 3rd degree hemorrhoids (n=62)

Post op pain	Frequency	Percent
0 (No pain}	31	50.0
1 (Mild pain)	13	21.0
2 (Moderate pain)	15	24.2
3 (Severe pain)	3	4.8
Total	62	100.0

Figure 2. Immediate complications after RBL for 3rd degree hemorrhoids (n=62)

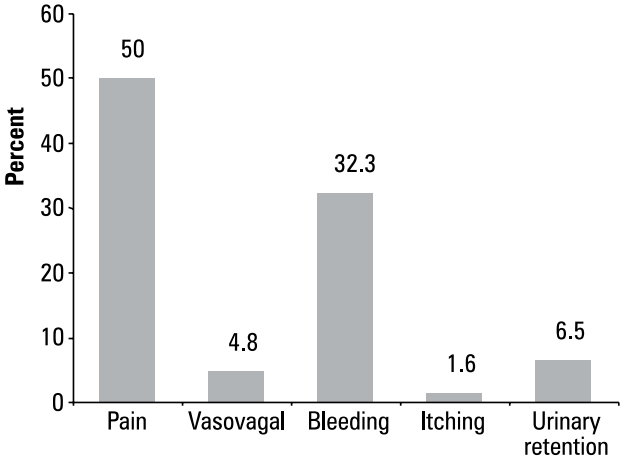

Figure 3. Complications at follow up

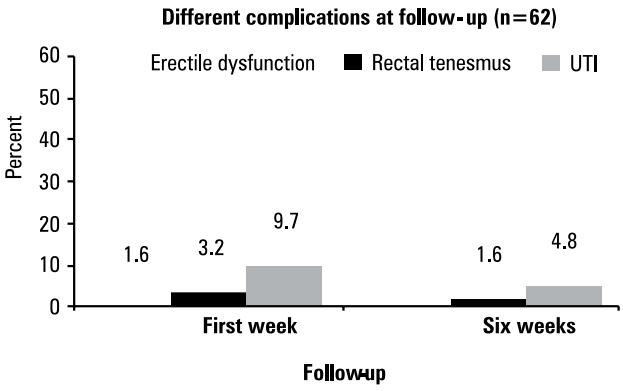

Table 2. Pain at different interval after RBL for 3rd degree hemorrhoids (n=62)

Pain	First week		Sixth week		p value
	Frequency	Percent	Frequency	Percent	
Pain	26	41.9	18	29	0.133
No pain	36	58.1	44	71	
Total	62	100	62	100	

Table 3. Outcome of RBL in 3rd degree hemorrhoids at 6 week

Results	Frequency	Percent
Improved	47	75.8%
Failure	15	24.2%
Total	62	100.0

Discussion

Main presentations of 3rd degree hemorrhoids in this study were bleeding per rectum (77.4%) constipation (64.5%), and painful defecation (53.2%). This is similar to the findings by Gordon PH et al[3] of bleeding per rectum in 90.8% and prolapse in 47.5%. Pain (50%) was the commonest complain in immediate post operative period followed by bleeding (32.7%) which was higher than findings by Vassilios et al[4] of pain in 8.6% and hemorrhage 2.2%. Kumar et al[5] in their prospective study found immediate complications in 67.3%, mainly pain

(51%), vasovagal attack (15.3%) and bleeding (1%). Pain is mostly due to technical error of band application at or distal to dentate line. Bleeding in our study could have been due to the serration in the instrument (Barron's gun) used to catch hold hemorrhoids manually prior to firing the bands. Less bleeding in other studies mentioned above by various authors could be due to use of suction ligator instead of Barron's gun. Similarly Tanwir et al[6] in his study found pain (mild 12.5%, moderate 7.2%, and severe 8.9%) bleeding (7.2%) and vasovagal episodes (7.2%) in immediate post operative period. We had vasovagal episodes in 4.8% of our cases. Other complications minor complications we noticed in immediate post operative period were itching, urine retention and tenesmus. The percentage of bleeding in our study was 21%, slightly higher than other reported cases.[7] Johanson and Rimm[8] in their metaanalysis showed that 6.6-14.3% of the patients undergoing RBL required additional treatment due to the recurrence of symptoms. Bayer et al[9] reported 2.1% failure of RBL and needed conventional hemorrhoidectomy. In our study, recurrent symptoms of discharge and mass protrusion was seen in 6.4% and mass protrusion in 17.7 % even with repeat RBL. These patients (24.2%) were considered as treatment failure and advised to undergo surgical hemorrhoidectomy.

Conclusion

Third degree hemorrhoids can be treated by RBL as OPD procedure using minimal resources and manpower, freeing hospital bed for more serious patients.

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