

Experience with rubber band ligation of hemorrhoids in northern Nigeria

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ABSTRACT

Background: Treatment of hemorrhoids in Nigeria is usually done by the traditional open method that requires hospital admission; anesthesia and is associated with high morbidity. Rubber band ligation is a suitable alternative to open hemorrhoidectomy and has the potential to reduce the need for hospital admission. **Patients and Methods:** This was a prospective analysis of consecutive patients presenting with hemorrhoids that were suitable for surgical treatment to the Jos University Teaching Hospital and the Federal Medical Centre Gombe from January 2008 to December 2010 (24 months). **Results:** A total of 232 rubber band ligations were performed on 40 patients whose ages ranged from 20 to 54 years with a mean age of 37.1 ± 12.2 years. There were 24 males and 16 females (M:F::2:3). Thirty-nine patients (97.5%) were cured of their symptoms following the procedure, and 1 patient (2.5%) had severe pain as complication of the treatment. Another patient had recurrence that was treated by repeat rubber band ligation. **Conclusion:** We conclude that rubber band ligation is a safe and reliable way for outpatient treatment of hemorrhoids in Nigeria.

Key words: Hemorrhoids, Nigeria, outpatient, rubber band ligation, treatment

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INTRODUCTION

Hemorrhoids considered suitable for surgical treatment in Nigeria are usually treated by the traditional open hemorrhoidectomy technique described by Milligan and Morgan. This entails dissection and ligation of the hemorrhoidal trunks under appropriate anesthesia with the patient usually requiring admission. This method of treating hemorrhoids is associated with significant morbidity like post-operative pain, bleeding, and the risk of anal stenosis or anal sphincter incontinence.^{1,2} This has led to the development of many minimally invasive treatment options for hemorrhoids like injection sclerotherapy, LASER and infrared photocoagulations, rubber band ligation and Doppler-guided hemorrhoidal artery ligation.³⁻⁸ Majority of these treatment options are not readily available in our practice that is now facing the challenge of lack of bed space for admission of in-patients. Efforts have been made by surgeons in Nigeria to reduce

hospital admissions following hemorrhoid surgeries by improvising 50% dextrose for injection sclerotherapy of hemorrhoids as day case procedure and even to the extent of performing open hemorrhoidectomy on outpatient basis.^{3,4} This study was aimed at evaluating our experience with rubber band ligation of hemorrhoids in Nigeria and its potential to reduce admission requirement in our hospitals.

MATERIALS AND METHODS

This was a prospective analysis of consecutive patients presenting with symptomatic grades 2 and 3 internal haemorrhoids to the Jos University Teaching Hospital and the Federal Medical Centre Gombe from January 2008 to December 2010 (24 months). Patients with grade 1, infected, thrombosed, or prolapsed hemorrhoids as well as those who declined consent were excluded from the study. Patients that had open hemorrhoidectomy previously were also excluded.

Neither anesthesia nor special bowel preparation was required for this procedure apart from the need for the patient to empty his bowels on the morning of the procedure. The procedure was carried out with each patient lying in the left lateral or dorsal positions. An initial digital rectal examination followed by proctoscopy was done with a bevelled transparent proctoscope to which a pen torch was attached to provide illumination, thereby displaying

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the hemorrhoids. Each hemorrhoidal trunk was then sucked up above the dentate line with a pre-loaded baron band ligator [Figure 1] introduced through the proctoscope and the gun was fired at the sucked-up hemorrhoidal trunk, thereby slipping the rubber band to occlude the vascular trunk and the suction was then released⁵ [Figure 2]. The procedure was repeated on other hemorrhoids to a maximum of three per session. In the case of circumferential hemorrhoids, those at the primary positions 3, 7, and 11 o'clock were treated first and daughter hemorrhoids were treated 2 weeks later to reduce the chances of slippage of bands and anal stenosis. The instruments were washed and treated with 2% glutaraldehyde solution for 10 min before each patient use. Patients were followed-up for a minimum of 6 weeks, with the longest follow-up period being 2 years.

The patients' biodata, presenting symptoms, grade of hemorrhoids, and the level of satisfaction were analyzed using Epi-info statistical software version 3.5.1.

RESULTS

A total of 232 rubber band ligations were performed on 40 patients whose ages ranged from 20 to 54 years with a mean age of 37.1 ± 12.2 years. There were 24 males and 16 females (M:F 2:3). All patients had bleeding per rectum as a symptom, 10 (25%) presented with pruritus ani, 13 (32.5%) had mucous discharge, and 17 (42.5%) presented with all the symptoms. Twenty-two patients (55%) had 2 sessions of rubber band ligation, 10 (25%) had a single session, while 8 (20%) had 3 sessions. Thirty-six patients (90%) presented with second degree hemorrhoids, while 4 (10%) had third degree hemorrhoids. Twenty-four patients (60%) had hemorrhoids at the 3 primary sites, 8 (20%) at 2 primary sites, and another 8 (20%) had circumferential hemorrhoids. Twelve patients (30%) were housewives, 4 (10%) were businessmen, and 8 each were students (20%), medical doctors (20%), and nurses (20%).

Thirty-nine patients (97.5%) were cured of their symptoms, while 1 patient (2.5%) had persistent pruritus ani. One patient experienced severe anal pain from wrong application of the band below the dentate line and another patient had recurrence at 20 months of follow-up for reasons that are not clear to us. This patient however had repeat band ligation.

DISCUSSION

This procedure had 97.5% success rate over a 2-year follow-up period; one patient had recurrence requiring a repeat band ligation. This study reports a very high success rate even though the procedure is new in our practice. This is much higher than the 79% success reported by Bayer *et al.*⁶ This may be due to our exclusion of those with



Figure 1: Instruments for band ligation including bevelled plastic proctoscope with provision for light, plastic baron band ligator, rubber band loader, and a pen torch from left to right, respectively



Figure 2: A banded hemorrhoidal trunk displayed with an anal speculum (row)

complicated hemorrhoids.

Most of our patients were cured of their symptoms following this treatment and expressed satisfaction with the procedure. This generally agrees with similar past studies.⁷⁻⁹ This observation may be due to the simplicity of the procedure and the fact that anesthesia is not required.¹⁰ A good number of our patients (75%) required multiple sessions of rubber band ligation to obliterate their hemorrhoids and cure their symptoms. These repeat sessions of banding were easily done at a cheaper rate. One patient in this study had severe anal pain due to wrong application of the band below the dentate line. This warranted removal of the band. Although this procedure is supposedly painless, severe pain has been reported in some series, necessitating systemic analgesics.¹¹ This pain is believed to be from ischemia induced by the procedure or from application of the bands below the dentate line.

It was also noticed that majority of the patients were young

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productive members of the society that wanted to return to work as soon as possible after the surgery, and the convenience of this procedure appealed to them. Although bleeding, thrombosis, and prolapse do not preclude rubber band ligation of hemorrhoids,¹² they were deliberately excluded from this study until our proficiency improved with the procedure.

We conclude that rubber band ligation is a safe and reliable way for outpatient treatment of hemorrhoids in Nigeria.

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