



Study of Efficacy and Early Post-Procedure Complications of Rubber Band Ligation for Controlling Bleeding in Second Degree Hemorrhoid at National Referral Hospital



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Abstract

Hemorrhoids of varying degrees are a health concern in the general population. Though it is not a major health problem, it provides extreme discomfort to the patient, and due to its location patients are reluctant to come forward with their condition. At second week post rubber band ligation, bleeding seen in 100% cases at presentation decreased to 9.8%. By using McNemar's test p-value < 0.001 is derived therefore there is significant difference between occurrence of bleeding at presentation and at 2 weeks, deducing the conclusion that rubber band ligation is highly effective in controlling bleeding due to second degree hemorrhoid. More than 80% of the patients experienced only mild post-procedure pain, determined on numeric pain rating scale, and required oral analgesics for less than three days. Furthermore, only 19.5% of patients needed less than 3 days off work, with more than 80% able to resume their daily activities on the same day or the next, indicating that this procedure presented very less discomfort/complications to the patients. Therefore, rubber band ligation is a very efficient treatment intervention for controlling bleeding due to second degree hemorrhoids.

Keywords: Hemorrhoid; Banov's classification; Internal; External; Thrombosed

Introduction

Hemorrhoids are one of the most common health issues faced by the general population, occurring in intimate areas causing discomfort of various degrees to patients. The origin of the word originally is Greek, where 'harem' means blood and 'rhoos' means flowing. The condition can also be termed as 'piles' which has a Latin origin meaning 'pill' or 'ball'. Therefore, when the patient objectively gives complaints of mass per rectum, 'piles' can be used to describe the condition and if bleeding per rectum is the chief complaint 'hemorrhoids' should be used appropriately [1]. Hemorrhoids can occur at any age stage of life, irrespective of age and gender. Their diagnosis is sometimes overlooked because of patients' reluctances to pinpoint their symptoms pertaining to intimate area and to be examined. According to the available literature, the incidence of hemorrhoids in the general population is about 5% [2]. The condition causing increased intra-abdominal pressure, like chronic cough, chronic constipation & pregnancy is considered to be one of the risk factors for developing hemorrhoids [3,4] Pathologically patients with hemorrhoids

will have dilated veins in the anorectal region, but not all these patients will be symptomatic [1]. Therefore, only symptomatic patients with hemorrhoids should be taken into consideration as diseased, although the condition is rarely life-threatening [4].

Different modalities of treatment exist for hemorrhoids, surgical interventions like closed and open hemorrhoidectomy and non-surgical interventions such as sclerotherapy and rubber band ligation. In 1954, Blaisdell invented the first automatic ligator of hemorrhoids, which was modified by Barron in 1962 [5]. Since its invention, rubber band ligation has been used widely as a treatment modality for internal hemorrhoids. This procedure reduces the tissue responsible for the production of the symptom by strangulation of the redundant mucosa and imparts a good result. Various studies were conducted comparing rubber band ligation with other nonsurgical procedures for hemorrhoids, and documented results show rubber band ligation to have comparative if not better outcomes, and highly cost effective. [6,2]. Adequate follow-up in different studies showed complications to be very

minimal and not severe [7]. This procedure is fulfilling the role of being commonly available treatment options for management of hemorrhoids in outpatient settings. A simple, safe, and effective method, RBL has emerged as a successful modality of treatment for second degree hemorrhoids as an outpatient procedure with significant improvement in quality of life. In this study we will present the outcome of rubber band ligation in patients who

presented with symptomatic second-degree hemorrhoids as outpatient procedure in the department of surgery at a National Referral Hospital, Bhutan [8-10].

Method

The study was a prospective observational study (Figure 1).

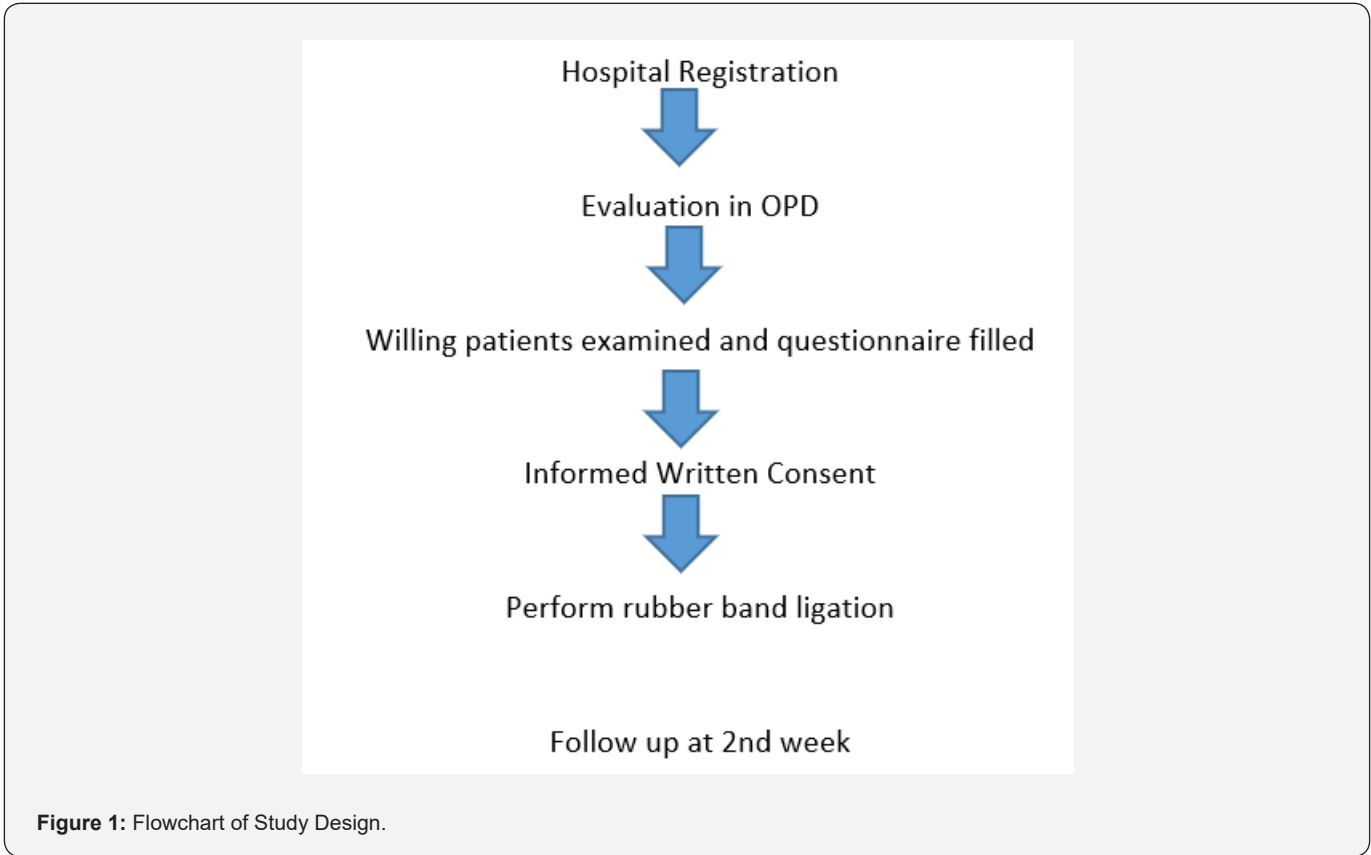


Figure 1: Flowchart of Study Design.

The study was conducted at surgical OPD, Jigme Dorji Wangchuk National Referral Hospital. It was conducted from 1st April 2018 to 31st March 2019 for a period of one year. A total of 41 patients underwent banding in minor OT as an outpatient procedure considering confidence interval of 99.99%. Data collected was entered on a computer and stored in a password-protected, secure location by the Principal Investigator. Data did not contain any identifiers of the patient. Data was entered in Microsoft Word/ Excel spreadsheet and exported to Epi-Data software version 3.1 for data management, processing, and analysis. The data were expressed in terms of percentages, ratios,

mean and median. The same is also displayed in pictorial form in the form of tables and graphs [11-13].

Result

In this study the following data for clinical studies was obtained from national referral hospital, RBL was performed by the principal investigator. Forty-one cases of symptomatic second-degree hemorrhoids who elected to be treated by Rubber Band Ligation were chosen during the period from 31st March 2018 to 30th March 2019 (Figures 2 & 3) (Tables 1-5).

Table 1.

Gender	Number of patients	Percentage (%)
Male	20	48.8
Female	21	51.2

Table 2.

Bleeding	Number of patients	
	At presentation	Follow up
Yes	41	4
No	0	37
p-value	<0.001	<0.001

Table 3.

Mode of onset of bleeding	Number of patients	Percentage (%)
Spontaneous	5	12.2
During Defecation	36	87.8
Total	41	100

Table 4.

Post procedure re-bleed	Number of patients	Percentage (%)
Yes	4	9.8
NO	37	90.2

Table 5.

Post procedure pain	Number of patients	Percentage
Mild	33	80.5
Moderate	8	19.5
Severe	0	0

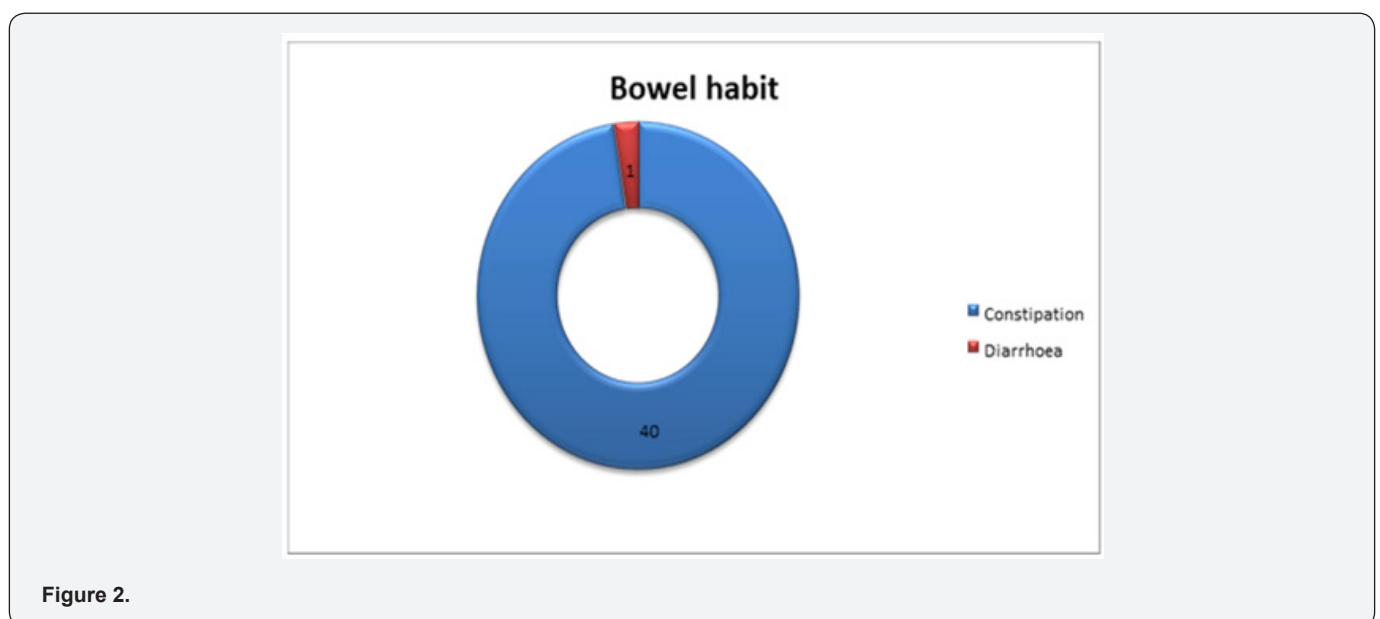


Figure 2.

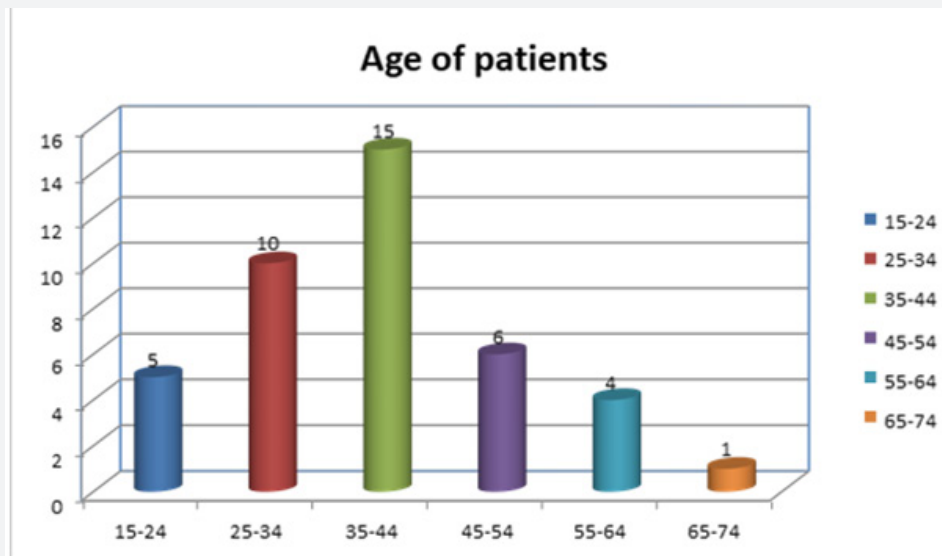


Figure 3.

Discussion

Hemorrhoids have plagued human beings throughout history, perhaps beginning when we first assumed upright posture. This is one of the most common surgical ailments presented in out-patient department. Different modalities of treatment for hemorrhoidal diseases have been developed, however none of them is tagged as gold standard. The present study was undertaken to evaluate the effectiveness of Barron band ligation as a modality of treatment of second-degree hemorrhoids [14-20]. Our results and observations were discussed and compared with various other studies. Rubber band ligation proved to be a simple technique, did not need expertise or too much skill. Rather it doesn't require sedation or anesthesia and pre-procedure elaborate work up & expensive equipment. Patient can resume his/her normal activity as there is no need for bed rest.

Conclusion

Rubber band ligation is very effective in controlling bleeding symptoms related to second degree hemorrhoids and the early post procedure complications are minimal. It can be performed in a wide range of patients (as shown in the study, youngest patient of 19 years to oldest of 67 years). The procedure is rather inexpensive and does not require expensive and complicated equipment. It can be performed in outpatient departments, with no requirement of admission or the hassle of taking the patient to Operation Theater subjecting him/her under anesthesia. This procedure is fast and simple as described in the steps in this study, so does not require extra specialized training or a specialized center to provide this service., which will reflect in cutting down the cost and trouble for both the patients and health staffs [21].

Early recognition and grading of hemorrhoids with subsequent application of rubber band at second degree to control bleeding manifestations can not only arrest primary symptoms but also prevent further progression of the disease. Moreover, owing to the rarity of early post procedure complications, the outcome of this procedure is very favorable, providing less discomfort and rapid relief to the patients. Since this is a single center study and the first of its kind being undertaken in our country, more robust studies are required to make a definitive conclusion.

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