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OUTCOME OF RUBBER BAND LIGATION AS AN OUTPATIENT PROCEDURE FOR HEMORRHOIDS

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ABSTRACT

Introduction: This study aimed to evaluate the effectiveness, safety, quality of life, and outcomes of rubber band ligation (RBL) treatment for second- and third-degree hemorrhoids.

Methods. This study is a retrospective analysis of 250 patients who visited the outpatient clinic between September 2020 and December 2021. All of the patients had second- and third-degree internal symptomatic hemorrhoids, and they were all treated as outpatients utilizing the Barron applicator and rubber band ligation. Information was gathered from the patient records. Patients were advised to follow up with the outpatient clinic every two weeks, every 1 and 6 months, and by phone every six months for a period of two years.

Results: 193 patients, or 77% of the total, were cured.

After two years, a symptomatic recurrence was found in 46 patients (18%). Thirteen patients (5%) experienced minor complications related to RBL that did not necessitate hospitalization. Pain, rectal bleeding, and vasovagal symptoms were the complications (2.8, 1.2, and 0.7% of patients, respectively).

Conclusion: RBL is an easy, secure, and successful operation that can be performed as an outpatient to treat symptomatic second- and third-degree hemorrhoids.

Keywords: Rubber band ligation, second degree hemorrhoids, third degree hemorrhoids

Introduction

For hemorrhoids, rubber band ligation (RBL) is the most widely used non-surgical outpatient procedure. Due to its ease of use, safety, and effectiveness, it had been suggested that this procedure be done as an outpatient **[1-4]**. Individuals with a history of hemorrhoids, younger age, anal fissures, physically demanding jobs, spicy food, constipation, and alcohol consumption are more prone to developing hemorrhoids. Interestingly, stress seems to offer some protection against this condition. For younger women, there appears to be no link between genital activity and hemorrhoids **[5]**.

High body mass index (BMI) is thought to be a risk factor in and of itself **[6–7],** and chewing khat may be involved. Hemorrhoids most often manifest as rectal bleeding and prolapsing. Pain, pruritus, and constipation may also be present **[8].** Hemorrhoids can be treated conservatively with a hot sitz bath, medication, diet, and defecation, or surgically with non-invasive methods such as cryosurgery, sclerotherapy, RBL, infrared coagulation, laser coagulation, bipolar diathermy, anal dilatation, ultroid, and diode laser treatment, or invasively with methods like excision and ligation, closed hemorrhoidectomy, submucosal hemorrhoidectomy, whitehead operation, stapled hemorrhoidopexy (PPH), and excision with ligasure **[9–11].**

Some of these modalities may develop side effects like incontinence, pain, and anal stricture **[12].** However, some modalities—like PPH and Ligasure hemorrhoidectomy—are thought to be better than others **[13, 14].** Pain, rectal bleeding, vasovagal symptoms (fainting or dizziness), and in rare cases, severe perianal sepsis can complicate RBL **[15].** A diet high in fiber should be the first line of treatment for hemorrhoids with symptoms in degrees I and II. The Barron technique is a successful treatment for hemorrhoids in degrees 1, 2, and frequently 3 **[16],** particularly in older patients who also have moderate prolapse or comorbidity **[17].** and for a specific group of individuals with grade 4 hemorrhoids **[18]**

We examine the efficacy, safety, quality of life, and outcomes of RBL as an outpatient procedure for the treatment of symptomatic hemorrhoids in this retrospective study.

Material and methods

This study is a retrospective analysis of patients treated by RBL at the outpatient clinic between September 2020 and December 2021 who had symptomatic hemorrhoids. Information from 250 patients was obtained from hospital electronic records and files. Patients with first, second, or third degree internal piles at any age were included in the study, whereas patients with complicated piles or fourth degree hemorrhoids were excluded. Age, sex, occupation, place of residence, and presentation (bleeding, prolapse, anal pain, discharge, and pruritus) were all noted during a thorough history taking procedure. For patients older than 50, anal examinations included inspection, palpation, P.R. examinations, proctoscopic examinations, and sigmoidoscopic examinations. We have a policy of ligating every pile during the same session.
For one to two hours, the patient was monitored in the clinic to look for any early signs of complications, like pain or bleeding. They were updated on the treatment's progress (the decline of the hemorrhoidal nodule that had necrotized). The patients were advised to follow up with the outpatient clinic every two weeks, every 1 and 6 months, and then by phone every six months for the next two years. If the patients' symptoms persisted a month following the first procedure, further ligations were carried out. Complications following ligation were documented.
SPSS (Statistical Package for Social Science) version 25 was used to perform statistical analysis on the data. For quantitative data, the data was described using mean±SD, and for qualitative data, frequency and percentage.

Results

There are 250 individuals with hemorrhoids, ages ranging from 17 to 85 years old, with a mean age of 46±13.81 years. There were 40 patients (16%) who were female and 210 patients (84%) who were

male (Table 1). 77% of patients cured,18% had recurrence while 5% had complications. The result of RBL did not significantly differ between second- and third-degree hemorrhoids.
RBL complications affected 5% of the total as shown in detail in table 2.

Table 1: Patients biodata and symptoms, [n (%)]

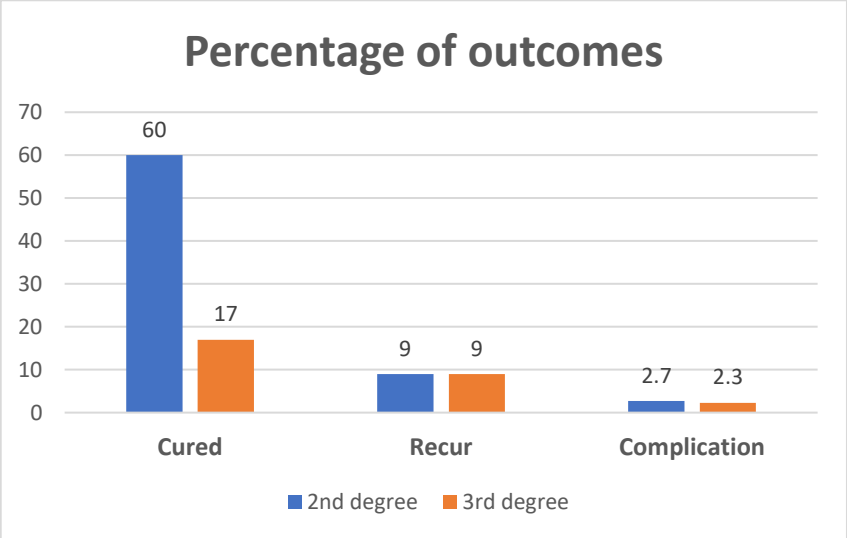
Age (y)	46±13.81 years
Gender	
Male	40, 16%
Female	210, 84%
Hemorrhoids grade	
2nd grade	190, 76%
3rd grade	60, 24%
Symptoms	
Bleeding	93, 37%
Pruritus	20, 8%
Pain	23, 9%
Constipation	50, 20%
Prolapse	65, 26%

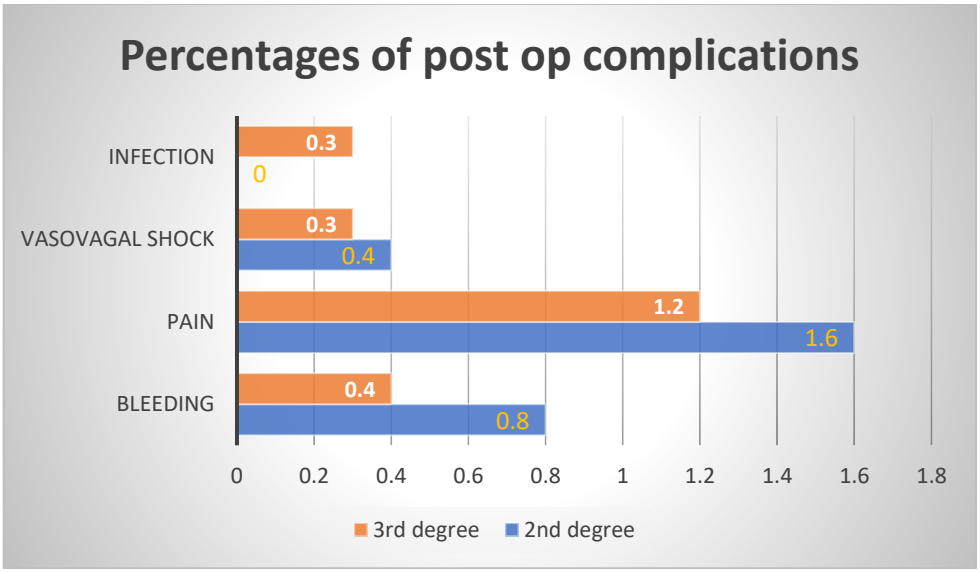
Table 2: Results of Rubber Band Ligation. (n=250)

Result	2nd degree	3rd degree	Total
Cured	150	42	193
Recur	23	23	46
Complication	7	5	13
Total	180	70	250

1.2% with mild rectal bleeding that happened five to ten days following the surgery were documented. There were 0.4 % of second-degree hemorrhoids and only 0.8 % of third-degree hemorrhoids with post-banding bleeding, which did not reach statistical significance.
In 0.7%, post-banding vasovagal symptoms were documented. After RBL, perianal abscess developed in 0.3% while post op pain in 2.8%.

Graph 2: showing percentages of post op complications





Discussion

According to Francois **[5],** men were affected more than women, which is in line with our findings. For all grades of hemorrhoids, RBL is thought to be the safest and most successful office procedure in terms of reduced problems and short- and long-term outcomes **[1-4].** Recent modalities have been developed that appear to have similar complications to RBL. These include electrotherapy, which has been shown to cause minimal post-procedural pain **[19]**, endoscopic ligation **[20]**, cryotherapy **[21]**, and infrared correlation. In other cases, these modalities may even be superior to RBL, such as in the case of hemorroidal laser procedures, which have been shown to cause less postoperative pain, according to Giamund.

The range of RBL success rates is 79 to 91.8% **[22].** Therefore, the success percentages of RBL for first-, second-, and third-degree hemorrhoids are the same. 193 patients, or 77% of the total, in our study had successful outcomes and were cured at the conclusion of their treatment. After two years, a symptomatic recurrence was found in 11.04 percent of cases in Ayman et al. **[4].** In our study, recurrence was noted in 46 patients (18%). The majority of RBL problems were mild, self-limiting, and did not necessitate hospitalization. According to Vassillios et al. **[22],** problems happened in 94 patients, or 18.8% of the total. 13 patients (5%) in our series experienced modest RBL problems, necessitating no hospitalization. Even when the band was carefully placed above the dentate line, post-banding soreness was frequently reported. Furthermore, it was noted that performing several bandings resulted in increased pain and discomfort.

Gupta **[23]** discovered that seven patients (15.9%) out of 44 who had RBL reported experiencing pain. Of the 750 participants in the study, 31 individuals (4.13%) had pain, according to Ayman et al. **[4].** We discovered that 2.8% patients experienced pain, and that pain always started immediately after the ligation or within a few hours of it and went away in less than two to three days. More discomfort and agony was experienced by patients who underwent numerous hemorrhoidal banding procedures in a single session.

These findings are consistent with those of Vassillios et al. **[22]**, who found that patients experienced more pain and suffering (9.35% vs. 1.96 %) after receiving many hemorrhoidal bandings in a single session as opposed to those who only received one banding. Ayman et al. **[4]** in their study of 750 cases found that 31 patients (4.13 %) had bleeding, which is slightly higher than our results. Bleeding is a significant complication of RBL and cannot be prevented. It is the result of the fall of the hemorrhoidal nodule and local inflammation; bleeding in our series occurred in 1.2% cases. It was mild and treated conservatively in all cases without hospitalization or blood transfusion. 0.7% patients

in our study had post-banding vasovagal symptoms. Fecal incontinence, cases of urine retention requiring catheterization, and cases worsened by anal stenosis following band ligation were not observed. similar outcome is less than that of Ayman et al. **[4]**, who in their investigation discovered similar complexity in 10 cases (1.33%).

Conclusion:

RBL is an outpatient operation that significantly improves quality of life and is a straightforward, safe, and successful treatment for symptomatic second- and third-degree hemorrhoids. Anorectal functions are not affected by RBL.

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