

A Comparative Study of Band Ligation versus Open haemorrhoidectomy in Second Degree Haemorrhoids

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Abstract

Introduction: Nowadays, rubber band ligation (RBL) is the most widely used procedure and it offers the possibility to resolve haemorrhoids disease without the need for hospitalization or anaesthesia and with a lower incidence of complications when compared to conventional studies. **Aims and Objectives:** To Study Band Ligation versus Open haemorrhoidectomy in Second Degree Haemorrhoids. **Methodology:** This study was carried out at tertiary health care center during one year period i.e. 2014 to 2015 in the 50 patients diagnosed as second degree Haemorrhoids Were included into the study. These patients were divided into two treatment groups i.e. Band Ligation (n=25) and Open haemorrhoidectomy (n=25) groups randomly by computer generated random numbers respectively. Z-test (Standard error of difference between two proportions) was used for statistical analysis. **Result:** Age distribution in the both the group were similar i.e. most Common age group of the Patients was 46-60 yrs. In both the groups. In Gender distribution was comparable to each other i.e. Majority of the patients were male in both the groups. In post-operative Outcomes these complications like Intense Pain(P<0.001), Urinary Retention(P<0.0001), Flatus incontinence(P<0.0001), Fecal incontinence(P<0.0001), Anal stenosis(P<0.01), Bleeding (P<0.01) were significantly higher in the Open haemorrhoidectomy groups. **Conclusion:** In our study we found that the Band ligation is superior than Haemorrhoidectomy in terms of complications like Intense Pain, Urinary Retention, Flatus incontinence, Fecal incontinence, Anal stenosis, Bleeding were significantly less in Band ligation group.

Key Words: Band Ligation, Open haemorrhoidectomy, Second Degree Haemorrhoids.

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INTRODUCTION

Nowadays, rubber band ligation (RBL) is the most widely used procedure and it offers the possibility to resolve haemorrhoids disease without the need for hospitalization or anaesthesia and with a lower incidence of complications when compared to conventional studies.¹Not more than two haemorrhoids should be

banded at each session and three weeks at least should elapse between each treatment.²To avoid pain one of the major complications of banding, bands should be applied at least 1.5cm above the dilatation.³Haemorrhoids are the clinical manifestation of the downward disruption of the normal, functional structures known as the anal cushions.⁴ Haemorrhoids are defined as the engorged anal cushions. Non pathological anal cushions are part of normal continent mechanism of anal sphincter and they differ from haemorrhoidal disease.⁵Haemorrhoid is a common surgical problem in our country and occurs in up to 80% of the population at some time in life, involving any age and affecting equally both males and females.⁶Fifty percent of people over the age of 50 year, have some degree of discomfort from them.¹ Haemorrhoids are a common cause of perianal complaint and affect 1-10 million people in North America and Europe.⁷The high prevalence of this disease stimulated many surgeons to

work and devise various methods of management for haemorrhoids.⁵The treatment of haemorrhoids is directed at alleviating its varying symptomatology.^{8,9}The treatment of haemorrhoids may be either surgical or non-surgical and includes options like injection sclerotherapy, banding, infra-red photocoagulation, cryotherapy and surgery.⁶⁻⁸ The two popular and conventional treatment options are to fix the haemorrhoidal cushions by scarring with different non-surgical procedures or to ablate them by formal excision.^{7,8,12}Rubber band ligation was introduced by Blaisdell in 1958 and popularized by Barron. Later on the procedure became known by the name of Barron.⁵It is the most simple, safe and popular of the non-surgical interventions, but despite its simplicity, the procedure is known for its diminishing long term although rare, with serious adverse events including pelvic sepsis and Fournier's gangrene.⁸On the other hand, open haemorrhoidectomy seems to produce the most sustainable symptom control with less need for retreatment.^{7,8}This is considered by many surgeons as the "gold standard" treatment for symptomatic haemorrhoids.¹³However, Salmon's original technique of open haemorrhoidectomy and its various subsequent modifications incur post-operative pain, a long recovery

time and a significant level of complications. This study compared the two common techniques for treating haemorrhoids in terms of post-operative various complications like Bleeding pain etc.

METHODOLOGY

This study was carried out at tertiary health care center during one year period i.e. 2014 to 2015 in the 50 patients diagnosed as second degree Haemorrhoids. Were included into the study, all of them explained about the both the operative procedure and their potential advantages and Disadvantages and after written consent of the patients they were included into the study while those patients who did not give consent and with malignancy and other co morbid condition like diabetes, hypertension etc. were excluded from the study. These patients were divided into two treatment groups i.e. Band Ligation (n=25) and Openhaemorrhoidectomy (n=25) groups randomly by computer generated random numbers respectively. Z-test (Standard error of difference between two proportions) was used for statistical analysis.

RESULT

Table 1: Age wise Distribution of the Patients in Band Ligation and Openhaemorrhoidectomy Groups

Age	Band Ligation	Percentage (%)	Open haemorrhoidectomy	Percentage (%)
15-30	4	16.00	6	24.00
31-45	6	24.00	5	20.00
46-60	15	60.00	14	56.00
Total	25	100.00	25	100.00

Age distribution in the both the group were similar i.e. most Common age group of the Patients was 46-60 yrs. In both the groups.

Table 2: Gender wise Distribution of the Patients in Band Ligation and Openhaemorrhoidectomy Groups

Sex	Band Ligation	Percentage (%)	Open haemorrhoidectomy	Percentage (%)
Male	10	40.00	11	44.00
Female	15	60.00	14	66.00
Total	25	100.00	25	100.00

In Gender distribution both the groups were comparable to each other i.e. Majority of the patients were male in both the groups.

Table 3: Distribution of the Patients in Band Ligation and Openhaemorrhoidectomy Groups As per the Post-Operative Out comes

Out come	Band Ligation	Percentage (%)	Open haemorrhoidectomy	Percentage (%)	P-Value
Intense Pain	5	20.00	14	56.00	P<0.001
Urinary Retention	0	0.00	9	36.00	P<0.0001
Flatus incontinence	1	4.00	13	52.00	P<0.0001
Fecal incontinence	1	4.00	11	44.00	P<0.0001
Anal stenosis	3	12.00	15	60.00	P<0.01
Bleeding	2	8.00	16	64.00	P<0.01

In post-operative Outcomes these complications like Intense Pain($P<0.001$), Urinary Retention($P<0.0001$), Flatus incontinence($P<0.0001$), Fecal incontinence($P<0.0001$), Anal stenosis($P<0.01$), Bleeding ($P<0.01$) were significantly higher in the Open haemorrhoidectomy groups.

DISCUSSION

There are different modalities to treat hemorrhoidal disease, but there is no perfect technique to treat this disease, although many studies have been performed to compare these techniques¹⁴. Surgical hemorrhoidectomy remains a very effective approach for patients with advanced hemorrhoids (grade three or four). However, it is associated with increased pain and the highest complication rate and causes significant changes in anorectal physiology when compared to other modalities^{15,16}. Now it is the procedure of choice for patients who did not respond to office-based procedures or who unable to tolerate these procedures, grade three or four hemorrhoids, or patients with substantial external skin tags¹⁷. Rubber band ligation is also widely used because it is a safe and effective method, involves less postoperative pain, and causes a quick recovery¹⁸. Complications are mostly minor. However, there have been reports of severe sepsis following interventions for hemorrhoids²⁰. It is a safe method for treatment of symptomatic hemorrhoids in HIV positive patients and one with cirrhosis and portal hypertension^{19,21}. Because hemorrhoidal disease is a benign condition so should try the least aggressive and safest procedure which enables quick recovery of the patient.

In our study we found that the Band ligation is superior than Haemorrhoidectomy in terms of complications like Intense Pain($P<0.001$), Urinary Retention($P<0.0001$), Flatus incontinence($P<0.0001$), Fecal incontinence($P<0.0001$), Anal stenosis($P<0.01$), Bleeding ($P<0.01$) were significantly higher in the Open haemorrhoidectomy groups. These findings are in confirmation with El Nakeeb *et al.*¹

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