Original Article

Outcome of Rubber Band Ligation in Hemorrhoids

Rubber Band Ligation in Hemorrhoids

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ABSTRACT

Objective: To analyze the effectiveness, safety & outcome of treatment of hemorrhoids by using Rubber band ligation.

Study Design: Prospective study.

Place and Duration of Study: This study was conducted at the Department of Surgery Unit-II, CMC Hospital Larkana, from June 2014 to July 2017.

Material and Method: All patients with 1st,2nd and 3rd degree hemorrhoids were included in our study and exclusion criteria were patients not willing to involve in study,4th degree hemorrhoids, bleeding disorders, dual pathology of anal canal and previous history of anorectal surgery. The data related to name, age and gender were recorded. Rubber Band Ligation was performed as an office procedure in Out Patient Department. The patients were asked to return OPD for follow-up after two weeks, one month, six months and 1 year. The outcome was recorded and analyzed.

Results: Two hundred twenty patients with diagnosis 1st, 2nd and 3rd degree hemorrhoids after fulfilling the inclusion criteria were enrolled with mean age of 43.5 years with SD+11.5. Majority of patients were having 2nd Degree hemorrhoids. Two third of patients having bleeding per rectum, constipation and something coming out per anus. The cure rate in our study was observed in 69%. Post procedure complications were observed in 13.1%, while recurrence rate was seen in 17.27%. Majority of the patients were having bleeding per rectum. Higher grade of hemorrhoids were observed having higher rate of complications. Statistically P-value (0.05) was significant,while P-value was not found significant when compared to gender (P=0.15).

Conclusion: Rubber Band Ligation is a simple, safe and effective modality of treatment in Out Patient Department for 1st,2nd and 3rd degree hemorrhoids, which can be performed in selected cases. The benefit of RBL has decreased the incidence of complications and does not alter the anorectal function.

Key Words: Bleeding per rectum, Rubber Band Ligation, hemorrhoidectomy, outcome.

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INTRODUCTION

Hemorrhoids (piles) are the clinical manifestation of the downward disruption of normal functional mucosa called as anal cushions[1].

Hemrrohoids are considered as one of the common abnormality of the anal canal, clinically classified into four grades[2].Overall incidence of hemorrhoidal disease worldwide is in 5% of population, affected with the complains related to this disease[3].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[4]. The other risk factors for hemorrhoids may be previous history of hemorrhoidal symptoms, age below 50years,anal ulcers, physical activity, consumption of spicy food and visky intake. In young females no significant risk factors associated with genital activity was found for hemorrhoidal disease[5].

Different modalities of treatment for symptomatic hemorrhoids such as dietary modification, injection sclerotherapy, cryosurgery, infrared coagulation, laser coagulation, bipolar diathermy, diod laser treatment and operative procedures are being performed worldwide. Rubber band ligation is an office procedure performed in Out Patient Department, as a nonsurgical procedure for hemorrhoids. Therefore, patients having hemorrhoids are usually advised to come in OPD for this procedure, as it is technically easy, simple and safe procedure without anesthesia[6,7,8,9]. Recently this procedure is being commonly adopted as a nonsurgical treatment modality in hemorrhoids without anesthesia therefore, no need for hospitalization. The incidence of complications of Rubber Band Ligation reported low as compared to surgical procedure[10,11].

The complications of Rubber Band Ligation occurs like pain, bleeding, infection, incontinence of faeces and flatus, as reported in various studies[12,13].

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Recently new modalities of treatment are introduced and considered superior to RBL, such as stapled hemorrhoidectomy, ligasure hemorrhoidectomy and hemorrhoidal artery ligation (HAL)[14,15]. Symptomatic hemorrhoids can be treated initially with high fiber diet and laxatives. The method of RBL was more effective for the management of 1st, 2n &3rd degree hemorrhoids[16]. The aim of our study was to analyze the effectiveness, safety, quality of life and outcome of treatment of hemorrhoids by using RBL in OPD as an office procedure.

MATERIALS AND METHODS

A prospective study, conducted at Department of Surgery Unit-II, Chandka Medical College Hospital, Larkana, from June 2014 to July 2017- a three years study.

Patients above 16 years of age with either gender were included in our study.

We enrolled the patients from surgical Out Patients Department having 1st, 2nd and 3rddegree of hemorrhoids, who came OPD for consultation and treatment. Patients with external hemorrhoids, 4th degree hemorrhoids, having bleeding disorder, dual pathology of anal canal, previous history of anorectal surgery and patients not willing to give consent for participation in our study were excluded. Separate proforma was formed including demographic features like age, gender, presenting complain such as bleeding per rectum, constipation, something coming out of anus, pruritus and pain. The procedure of RBL was explained to all patients. The data was recorded for grade and number of hemorrhoids and post procedural complications. Outcome of the Rubber Band Ligation procedure was categorized into three such as cured, Recurrence and complications occurred. The 1st category of Patients were labelled as cured when they were asymptomatic and no hemorrhoids detected on clinical examination up to 1 year. The 2nd category of recurrence was labelled for the patients who remained asymptomatic after the procedure for 1 year, later developed the same symptoms. In 3rd category, the complications were noted within one year after the procedure and recorded.

After taking proper history and clinical examination, all patients underwent Digital Rectal Examination (DRE) and proctoscopy. After taking the written& informed consent, all patients were explained about the procedure of Rubber Band Ligation and its expected complications. Kleen enema was advised a night before and patients were called in OPD in the morning. Patients were placed in left lateral position, DRE followed by proctoscopy was performed and proctoscope placed 1-2 cm above the dentate line. After all asceptic measures, RBL was performed by using sterilized instruments. All hemorrhoids were ligated in single sitting and patients were observed for one hour after procedure to evaluate post procedural complications.

When found comfortable after the procedure, they were sent home and advised high residue diet, laxative, local anal hygiene and avoid prolong standing.

They were advised to follow up in OPD after two weeks, one month, six months and at one year. At every follow up, patients were assessed with history and asked for post procedural complications, followed by clinical examination, including DRE and proctoscopy. They were advised to seek immediate medical advise if they develop any of the prior explained complication. Data analysis was performed through SPSS version 16.

RESULTS

Two hundred twenty patients with diagnosis of 1st, 2nd and 3rd degree hemorrhoids were enrolled from June 2014 to July 2017. Majority of our patients were male, 164(74.5%) while females were 56(25.5%). Mean age of the patients was 43.5 years with SD of 11.5 years. (Table 1)

Table No.1: Demographic and clinical data for patients

Results	No. of Patients	%age
Gender	43.5±11	
Male	164	(74.5%)
Female	56	(25.5%)
Grade of hemorrhoids		
Grade-1	33	(15%)
Grade-2	104	(47.3%)
Grade-3	83	(37.7%)
Number of Hemorrhoids		
Single Hemorrhoids	13	(5.9%)
Double Hemorrhoids	97	(44.1%)
Three Hemorrhoids	110	(50%)
Clinical Features		
Bleeding	19	(8.6%)
Constipation	4	(1.8%)
Something is coming out from Anus	1	(1.5%)
Bleeding, constipation & Something is coming out from Anus	138	(62.7%)
Bleeding, something is coming out from Anus & Pruritis	32	(40.5%)
Bleeding & Something is coming out from Anus	24	(10.9%)
Pruritis	2	(0.9%)

Out of 220 cases, 33 patients (15%) were having Grade-1 hemorrhoids, 104 patients (47.3%) with Grade-2, while 83patients (37.7%) had Grade-3 hemorrhoids. The number of hemorrhoids were variable, major proportion of patients had two and three

hemorrhoids. 97patients (44.1%) had two hemorrhoids and 110 patients (50%) were having three hemorrhoids, while only 13 patients (5.9%) had single hemorrhoid. Substantial number of patients had more than two symptoms at presentation like bleeding combined with constipation and something coming out per anus was reported by 138 cases (62.7%). Bleeding along with pruritis and something coming out per anus was present in 32 cases (40.5%), bleeding and something coming out in 24 patients (10.9%), while smaller proportion of patients had only bleeding 19(8.6%) and constipation 4(1.8%).

Table No.2: Post Procedure complications

Results	No. of Patients	%age
Pain	8	(3.63%)
Bleeding	13	(5.9%)
Infection	5	(2.27%)
Urinary retention	3	(1.36)
Outcome		
Uneventful recovery	153	(69%)
Complications	29	(13.1%)
Recurrence	38	(17.3%)
Total	220	(100%)

Grade of hemorrhoids with post procedure complications (P value <0.05)

Grade of hemorrhoids with gender	P=0.09
Post procedure complications with gender	P=0.15
Outcome with gender	P=0.14

The cure rate in our study was in 153 (69%), while around38 patients (17.3%) presented with recurrent disease. Majority of the patients had uneventful recovery i.e. 153 patients (69%), while 29 patients (13.1%) developed one or the other complications. (Table 2) There was no significant difference in outcome when compared to gender (p value=0.14). Post procedural bleeding was observed in 13 patients (5.9%), pain was observed in 8 patients (3.63%), while 3 patients (1.36%) developed urinary retention. Post procedural complications were more common in patients with higher grade of hemorrhoids with statistically significant p-value (p=<0.05), while these were not significant when compared to gender (p=0.15).

DISCUSSION

First line management of initial hemorrhoidal disease is a non invasive and supportive, while surgery is reserved for those who fail to improve with the supportive measures. For symptomatic hemorrhoids in Grade 1 to 3,various studies observed poor response to the non invasive measures, therefore, are advised for band ligation[17,18,19,20].Contemporary surgical practice has been evolved over the time for treatment of hemorrhoids, and rubber band ligation has emerged as a promising alternative to hemorrhoidectomy. Younger population was more affected by hemorrhoidal disease in various studies[5,7] and mean age of their patients was 48 and 47 years respectively, this is consistent with mean age of our study, that is 43 years. Rubber Band Ligation (RBL) is the most effective, safe and easy method, performed in OPD as an office procedure used for first-to-third degree hemorrhoids with minimal complications, causing fibrosis, retraction, and fixation of the hemorrhoidal cushion[21].

Recently, most update modalities of treatment which seems to be similar to RBL are introduced, such as Injection Sclerotherapy, Endoscopic ligation, cryotherapy, infrared coagulation and hemorrhoidal laser procedure, with minimal post procedural pain and bleeding.[22,23].

In our study, male population was three fold more as compared to the females which could be attributed to the psycho social regional differences which was consistent with the other studies[24].

The cure rate of successful Rubber Band Ligation ranges from 79-91.8% with no difference in cure according to the different grade of disease[25]. In our study, out of 220 patients, cure rate was observed in 153 patients (69%) which is consistent with above study.

Majority of patients after RBL develop trivial complications reported in a study in 94 patients (18.8%)[26.] while in our study, we observed one or the other complications in 38 patients (30.5%).

Bleeding was major complication in our study observed in 13 patients (5.9%) which was mild and treated symptomatically, while in other study it was observed in 31 patients (4.13%)[27]. Pain is one of the most common complication of RBL. In our study pain reported in 8 patients (3.63%), while Gupta et al observed pain in 7 patients (15.9%)[28] and in all cases patients noticed pain in first few of hours that was relieved within 12 hours. Some studies reported mild anal pain in 25% of patients for first 48 hours after banding[29,30]. Several infectious complications have been reported following RBL including pelvic sepsis, Fournier's gangrene, and liver abscess. In our study five patients (2,27%) developed anal infection that was treated by antibiotics successfully.

One of the most serious complication is pelvic sepsis reported in various studies[31,32]. Suspicion should arise in patients with pain, fever, oedema, and urinary retention. A case of Fournier's gangrene in elderly patients with diabetes was reported after RBL[33]. The development of multiple liver abscess were also reported in literature following RBL of hemorrhoids[34,35.]

The recurrence rate in our study was observed in 38 patients (17.3%) after 1 year, while in other study, 22 patients were reported (11.9%) with recurrence at 2 years after Rubber Band Ligation[25]. In recent most

studies, recurrence is >30% and is more likely with increasing prolapse[36]. Recurrences can be treated by re-banding or by surgical intervention. In recent study[37], HAL (Hemorrhoidal Artery Ligation) was compared with RBL regarding recurrence. All other parameters were same except cost. HAL was significantly more expensive. Recently a survey conducted on effectiveness of non-surgical modalities of treatment for hemorrhoids, it was concluded that RBL appears to be the most effective therapy[38]. Other new techniques are more expensive and does not necessarily prove to better outcomes compared with RBL

CONCLUSION

RBL is simple, safe, and effective modality of treatment with less complications for hemorrhoids especially in first-to-third degree, which can be performed at Out Patient Department, as an office procedure. Its beauty is day care procedure with no hospitalization and anesthesia required. This modality of treatment is recommended in all age groups and in both genders, that does not alter the anorectal function.

Author's Contribution:

Concept & Design of Study:	Muhammad Saleem Shaikh
Drafting:	Muharram Ali, Kheo Ram Dholia
Data Analysis:	Muharram Ali, Kheo Ram Dholia
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