

A Study Conducted to Find the Usefulness of Sclerotherapy and Band Ligation as Treatment Modalities in Second Degree Internal Haemorrhoids

Sclerotherapy
and Band
Ligation in 2nd
Degree
Haemorrhoids

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ABSTRACT

Objective: To analyze the efficacy and success rate of sclerotherapy (ST) and rubber band ligation (RBL) for the treatment of second degree internal haemorrhoids.

Study Design: Cross-sectional prospective study

Place and Duration of Study: This study was conducted at the Surgical Units, Civil Hospital Karachi from June 2011 till August 2013.

Materials and Methods: Total 130 patients were selected out of 300 with second degree internal haemorrhoids without first, third or secondary haemorrhoids, anal fistula, anal fissures or perianal sinus. They were divided into two equal groups; i.e rubber band ligation (RBL) group and sclerotherapy (ST) group, consisted of 65 patients in each group.

Results: The major complaint was of pain 128(98.46%) patients, relieved within 3±days in ST-group & took longer approximately 7±days in RBL-group. Bleeding per rectum was present in 102 (77.69%) patients; out of which 51 patients were treated by RBL 49 (96.08%) got relieve immediately; but two took 2 weeks because of the complication of band slippage and got settled after repeat procedure. Complaint of constipation was present in 89(68.46%) patients, 88(98.8%) got relived from the symptom after treatment. Mucus discharge & tenesmus were relieved in both groups after treatment.

Conclusion: By ST and RBL second degree haemorrhoids can be treated with good success rate and efficacy in OPD setup. These also unload the economic burden on hospital and patient.

Key Words: Sclerotherapy (ST), Rubber band ligation (RBL), Second degree Haemorrhoids, Haemorrhoidectomy.

Citation of articles: Khan AN. A Study Conducted to Find the Usefulness of Sclerotherapy and Band Ligation as Treatment Modalities in Second Degree Internal Haemorrhoids. Med Forum 2017;28(7):20-24.

INTRODUCTION

Haemorrhoids are not in itself an indication for treatment; its treatment must be aimed at symptomatic relief and the correction of anatomic deformity. Both of the above are achieved by means of conservative or surgical methods.¹

Iyer and colleagues examined long-terms out comes in there retrospective analysis of rubber band ligations and reported RBL as safe and effective.²

Little is known about how these changes occur and when they develop. Most recent papers dealing with functional changes in prolapsing haemorrhoids have been connected with stapled haemorrhoidectomy^{3, 4, 5}.

Now a day's RBL is the most widely used procedure and it offers the possibility to resolve haemorrhoidal disease without the need for hospitalization or anaesthesia and with lower incidence of complications when compared to conventional surgery.⁶

The purpose of this study was to analyze the efficacy and success rate for the treatment of second degree internal haemorrhoids using sclerotherapy (ST) and rubber band ligation (RBL) the in out-patient department.

MATERIALS AND METHODS

The study was conducted for a period of two years and two months from June 2006 till August 2008, 130 patients were selected out of 300 patients with second degree internal haemorrhoids without the presence of secondary haemorrhoids. The patients under went proctoscopy in the surgical OPDs and were selected from their according to the inclusion and exclusion criteria. The patients were treated by two different treatment modalities, rubber band ligation (RBL) was applied on 65 patients (RBL-Group). Sclerotherapy (ST) was applied on 65 patients (ST-Group).

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Received: May 03, 2017;

Accepted: June 06, 2017

Inclusion criterion, was strictly followed, patients with second degree symptomatic haemorrhoids were included. Patients with the age group between 21-62 years were included in the study. Patients with mixed presentation of 2nd degree haemorrhoids along with 1st and 3rd degree haemorrhoids were excluded. Patients with 2nd degree haemorrhoids along with external haemorrhoids, anal fissure, anal fistulas, were also excluded. Patients with coeliac disease, colon cancer, ulcerative colitis, liver cirrhosis and liver cancer were also excluded from the study.

The instrument used for RBL was Baron's ligator, consist of small metal cylinder on a long handle attached to this cylinder or drum the handle design like scissors handle for open and close movement, by closing the handle the cylinder glides over the screw part of drum where the band is loaded thus releasing the band over the stump of pile or haemorrhoid which was drawn into the cylinder by special seizing forceps by pulling the mucosal prolapsed part of haemorrhoid into the cylinder, a rubber band ligature which was placed or loaded around the cylinder screw end by special conical metal tip loader which can be attached to the screw end by screwing movement then the band is rolled on it till it reaches the base of screw at the cylinder, then the metal cone is removed leaving the band loaded on cylinder screw end for application. Now a proctoscope is introduced with the patient in left lateral position and both legs rolled towards abdomen now the patient is asked to strain gently pushing the haemorrhoids downwards. The ligator was then inserted through the proctoscope and the mucosal part of haemorrhoid is pulled by the seizing forceps inside the cylinder of ligator till the base of haemorrhoid is reached, now the handle of ligator is closed thus releasing the loaded rubber band at the base of haemorrhoid. This causes in numbness of the strangulated tissue. The haemorrhoid after ligation gives the look of small cherry.

For ST, 5% phenol in almond oil was used in a 10cc disposable syringe. Proctoscope is introduced with the patient in left lateral position with both legs folded towards abdomen, 2^o degree internal haemorrhoid with prolapsed mucosa identified, then loaded 5% phenol oil is injected into prolapsed mucosa, 1.5cc- 2cc injected in each haemorrhoid.

Maximum of two haemorrhoids were treated per session in both the treatment modalities. Four to six weeks gap was maintained between each session for both RBL & ST-groups so as to provide time for the mucosal swelling of the treated haemorrhoids to get settled down.

The patients were kept under observation for one hour after the procedure and were advised for the following precautions & medications;

1. Avoid straining too hard during defecation for at least 6-8hrs
2. Drink 12- 15 glasses of water daily
3. Warm sitz baths
4. Analgesics were given i.e. Tab. Voren 50mg
5. Advised for stool softener i.e. Syp. Creamaffin
6. Ispaghul husk

Advice for follow-ups after one month, six months, and one year and last after two years, but in case of any complains the patient was asked to contact immediately.

RESULTS

Two treatment modalities were applied for the treatment of 2nd degree haemorrhoids, which were i.e. RBL and ST. The results of both the groups were analyzed for their efficacy and success rate.

A total of 130 out of 300 patients fulfilled the inclusion criteria; they were divided into two groups, 65(50%) patients in RBL-Group and 65(50%) patients in ST-Group. Among the total of 130 patients, 58(44.62%) were males and 72(55.38%) females. There was no difference in pattern or presentation of cases according to their sex, which is shown in Table-I.

Table No.I: Number & Sex of Patients:

Procedure	No. of Patients	Male	Female
RBL-Group	65 (50%)	28 (43.08%)	37 (56.92%)
ST-Group	65 (50%)	30 (46.15%)	35 (53.85%)
Total	130 (100%)	58 (44.62%)	72 (55.38%)

Patients age range between 21 to 62 years. The mean age was 45 ± 1 . They were divided into four age groups. The first group was from 21 to 30 years, with 39(30%) patients out of which 15 (38.46%) were males and 24 (61.54%) were females. The second group was from 31 to 40 years, with 29(22.31%) patients out of which 12 (41.38%) were males and 17 (58.62%) were females. Third group from 41 to 50 years, with 40(30.77%) patients out of which 21(52.5%) were males and 19 (47.5%) were females & forth group was 51 to 62 years, with 22(16.92%) patients among them 10(45.45%) males and 12(54.55%) were females.

Two haemorrhoids were treated per session, as more than two may cause post procedural narrowing of rectal lumen due to mucosal swelling leading to difficulty in passing stool. The number of sessions each patient had is given in Table-2

In RBL-group; out of 65 patients 11(16.92%) had three 2nd degree internal haemorrhoids at 3^o 7^o & 11^o clock positions. 21(32.3%) had two 2nd degree internal haemorrhoids at 11^o & 3^o clock positions, 18(27.69%)

two 2⁰ internal haemorrhoids at 11⁰ & 7⁰ clock positions and 15(23.07%) have had two haemorrhoids at 3⁰ & 7⁰.

In ST-Group; 23(35.38%) had three 2nd degree internal haemorrhoids at 3⁰ 7⁰ & 11⁰ clock positions, 10(15.38%) had two 2nd degree internal haemorrhoids at 11⁰ & 3⁰ clock positions, 16(24.62%) two 2⁰ internal haemorrhoids at 11⁰ & 7⁰ clock positions, and 16(24.62%) two 2⁰ internal haemorrhoids at 3⁰ & 7⁰.

TableNo.2: Number of Sessions of RBL & ST

Proce- dure	One Session	Two Sessions	Three Sessions	Four Sessions	Five sessions	Total Patients
RBL	15 (23.08%)	38 (58.46%)	11 (16.92%)	1 (1.54%)	2 After slippage of band	65 (100%)
ST	5 (7.69%)	37 (56.92%)	13 (20%)	5 (7.69%)	5 (7.69%)	65 (100%)

The major complaint was of pain during and after defecation; it was present in 128(98.46%) patients, relieved within 3±days in ST-group & took longer approximately 7±days in RBL-group become asymptomatic after treatment by both the modalities.

The second common complaint of patients before treatment was of bleeding per rectum in 102(78.46%) patients most of them 99(98.02%) become asymptomatic immediately, but 2(1.98%) patients of RBL-group returned due to rubber band slippage. One returned to ward on 10th day after RBL-treatment the other returned on 13th day of RBL-treatment both presented with bleeding per rectum which lasted to about 2± days, till the third day the patients got settled down, and were discharged with the advice to return back for treatment after six weeks. The ST session was done after six weeks to both the patients, which than remained uneventful till follow-up. One of the reasons for slippage of band could be the small size of the cherry red 2nd degree haemorrhoidal nodule from its stump after RBL.

Third complaint before treatment was of difficulty in passing stool in 89(68.46%) patients, among which 82(92.13%) become asymptomatic immediately after treatment and 7(7.87%) remained symptomatic, among the seven symptomatic patients 5 patients got settled down in three to four weeks time 2 have difficulty in passing stool since the age of 9-12 years. Out of these two, one got settled with altered dietary habits, but the other patient started passing stool after every second day, which according to patient was constipation until the follow up of one and a half year, thus 88 (98.88%) patients out of 89 got relieved from the symptom of constipation.

Tenesmus was present in 99(76.15%) patients; the result was 100%, as all patients become asymptomatic

after treatment by both the treatment modalities. Mucus discharge was present in 8(6.15%) patients and four were treated by RBL & remaining four by ST and both groups become asymptomatic after treatment.

The results of pain, tenesmus and mucus discharge were relieved in almost all the patients of both the groups. The complaint of bleeding per rectum also settled, but due to slippage of band two patients have repeated RBL-treatment after four weeks of first session the post procedural period after second session remained uneventful till one and a half years. The results of RBL-treatment modality are shown in Figure-I.

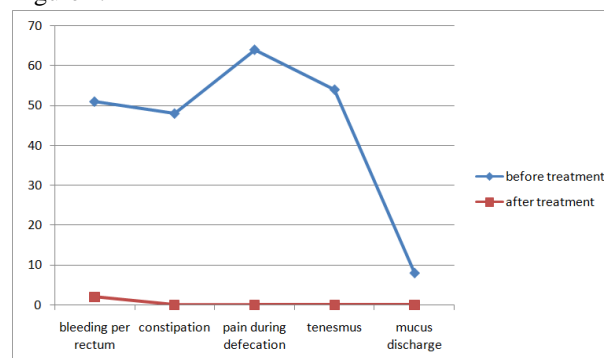


Figure No.1: Results of RBL-treatment Modality

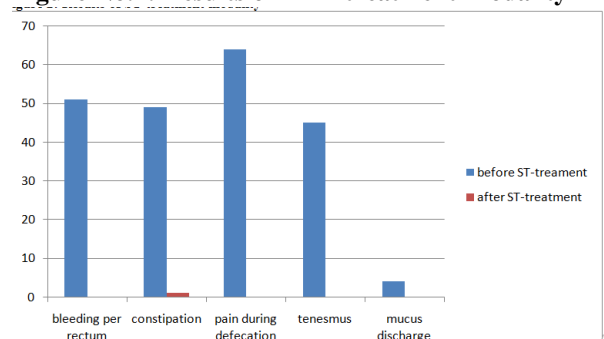


Figure No.1: Results of ST-treatment modality

One patient of ST-group did not have relieved from constipation but bleeding per rectum and pain during defecation got settled. The follow up was conducted for one and a half year no recurrence was reported up till the follow-up in both the groups. The results of ST-treatment modality are shown in Figure-2.

In our series the results of ST- group were very satisfying as pain, bleeding per rectum, mucus discharge & tenesmus was 100% successful & only one patient have the complaint of passing stool after two days, which according to patient was constipation.

DISCUSSION

Both RBL & ST are simple to perform in outpatient department and need no hospitalization, until some serious complications develops i.e. bleeding per rectum, hematuria, sepsis and stenosis. Associated conditions

such as skin tags, fistulas, external haemorrhoids should be looked for and these cases should be advised for surgery as first choice treatment⁷. Studies support the in-office treatment of first and second degree haemorrhoids, which has become a common practice now-a-days.⁸

Slippage of bands is a disadvantage of RBL. If slippage of bands occurred the procedure is repeated after the patient gets settled down. The incidence of slippage can be reduced to some extent by better selection criteria as second and third degree haemorrhoids are more suitable for RBL, due to their larger haemorrhoidal stump.⁹

Mehanna D & Platel C¹⁰ reported 4% of patients with RBL had minor bleed, which required no active surgical management. Su M Y & associates^{11,12} reported control of bleeding and prolapsed in 93% & 91 % of patients after RBL. The results of these studies are much closer to ours where control of bleeding was 96.08% and prolapsed was 100%.

Constipation & difficulty in passing stool is a common complain 27.62% patients¹³. In our series the symptom of constipation was present in 68.46% patients and after treatment 99% became asymptomatic. Sclerotherapy was successful in about 70-80 % of patients with 2nd degree haemorrhoids¹⁴. Our study shows that ST success rate was 99.1% up till the follow up of one and a half year.

A three year follow up by Kanellos I & associates¹⁵ showed that only 44.7% of their patients, with second degree haemorrhoids, remained symptom free or had improved, while 24.8% were worse & the remainder were unchanged (30.5%). In our study 98% approximately were symptom free among both groups, only one patient of RBL didn't got relieve from the complaint of constipation.

Fakhuda A & associates^{16, 17} reported excellent results in 89% of patients, good in 9% & poor in 2% in patients with RBL. Chew SS & associates¹⁸ reported excellent results with 3.1% complications (only bleeding) with RBL. Kumar¹⁹ described cure rate up to 71%, Poen AC^{20, 21} says that RBL is an effective treatment for symptomatic haemorrhoids.

CONCLUSION

By ST and RBL second degree haemorrhoids can be treated with good success rate and efficacy in OPD setup. These modalities also unload the economic burden on hospital and patients.

Author's Contribution:

Concept & Design of Study: Asma Niaz Khan
 Drafting: Asma Niaz Khan
 Data Analysis: Asma Niaz Khan
 Revisiting Critically: Asma Niaz Khan
 Final Approval of version: Asma Niaz Khan

Conflict of Interest: The study has no conflict of interest to declare by any author.

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