A Comparative Study Of Band Ligation V/S Sclerotherapy In Internal Haemorrhoids

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INTRODUCTION
For centuries the human race has been plagued by a very common condition called haemorrhoids. Haemorrhoids the word is derived from Greek, haima meaning blood and rhoos meaning flowing, the common man’s term piles is derived from Latin word pila meaning a ball. Haemorrhoids have been defined differently over the years from over simplified definition of varicosities of haemorrhoidal plexus to the more recent study describing them as specialized highly vascular “cushions” of discrete masses of thick submucosa, containing blood vessels, smooth muscles, elastic and connective tissue which may slide down due to breakage of collagen and anchoring supporting connective tissue causing symptoms like prolapse, bleeding, pain etc. The cause of which is still hypothesized as erect posture, constipation, straining during defecation, sedentary work and diet low on fiber, heredity, high resting anal pressures. Presenting complaints are Bleeding P/R. Pain, Itching & prolapse. There are many modalities of treatments are available for haemorrhoids. Few simple methods are also effective in 1st & early 2nd degree haemorrhoids. This study is planned to compare efficacy & outcomes of both modalitis of treatment.

MATERIALS & METHODS

The present study is a comparative study from 1st july 2012 to 30th sep 2014. The data for which was drawn from patients visiting Pandit Dindayal Upadhyay

ABSTRACT
AIMS AND OBJECTIVES: To compare the efficacy and safety of Band ligation and Sclerotherapy in Internal Haemorrhoids in the terms of Operative time, Post operative pain and requirement of analgesia, hospital stay, Time taken to resume to work and the recurrence rate. METHODOLOGY: This comparative study was carried out on in patients presenting at the department of surgery, P.D.U Medical College Rajkot. A total of 50patients were taken into consideration and were divided into two groups each of 25 subjects. The first group included the patients with Band Ligation while the other group included the patients with Sclerotherapy . Standard techniques were used in Sclerotherapy & Band Ligation. RESULTS: The present study was done to compare the effectiveness of rubber band ligation & sclerotherapy in the treatment of 1st & 2nd internal haemorrhoids. Post operative pain is a complication which is less in sclerotherapy as compared to Banding . Post operative bleeding per rectum as a complication is less in sclerotherapy compared to band ligation . Both procedures are simple, day care & equally effective. CONCLUSION: Post operative pain& Post operative bleeding per rectum as a complications are less in sclerotherapy compared to band ligation. In the present study both these procedure was found to be very simple technique,did not need expertise or too much skill,no need of anesthesia ,no pre procedure elaborate work up,no expensive equipment,day care surgery, similar efficacy ,equally effective in symptomatic relief, less time consuming, less post operative complication ,have early resumption to work & cost effective.

Key words: Internal Haemmoroids, Sclerotherapy, Band Ligation.

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Hospitals and Medical College, Rajkot, with a total no. of 50 cases of 1st and 2nd degree haemorrhoids were chosen with complaints of bleeding per rectum, pain during defecation, discharge and irritation. A detailed history & Examination including P/R & Proctoscopy was done of each patient and the data entered in the proforma. The patients were explained in detail about their disease and the modalities of treatment as Rubber band ligation, sclero therapy with the advantages and disadvantages of each. Willing patients were selected and examined and investigated as per proforma. Analysis was made on basis of percentages, mean, standard deviation. 25 patient was treated by band ligation & 25 patient was treated by sclero therapy.

Inclusion criteria & Exclusion criteria

Inclusion criteria
- Patients with complaints of bleeding per rectum, mass per rectum, pain, irritation, discharge per rectum
- Patients with 1st & 2nd degree haemorrhoids
- Both male and female
- Patients demanding non-surgical treatment

Exclusion criteria
- Immuno compromised patients
- Patients with bleeding disorders
- Patients with deranged liver function tests
- Pregnant & Pediatric Patient
- Inflammatory Bowel Disease

Presenting complaints were noted, Duration of the surgery was calculated in minutes. Post operative pain & Requirement of Analgesia was calculated in days. Post operative stay was also calculated in days. Postoperative complications & cost of treatments were also compared. Data was recorded on a proforma. Chi square tests and t-tests were used to find out statistical difference between the groups. P value of < 0.05 was considered as statistically significant and highly significant if P < 0.001.

TECHNIQUE OF Band Ligation: The proctoscope is well lubricated with local anesthetic jelly and gently introduced into the rectum first in the direction of umbilicus till anal canal is passed and later directed posteriorly to enter the rectum. Now the obturator is withdrawn to examine the interior as the proctoscope is withdrawn slowly the haemorrhoids protrude into the lumen of the proctoscope, the whole of the internal cushion is made to prolapse into the lumen so that the base of the cushion is easy to recognize. The hemorrhoids can be grasped with the alligator forceps and pulled into the cylinder of the ligating drum without causing discomfort. Then with gentle downward traction with alligator forceps and upward pressure with ligating drum the inner cylinder fills with hemorrhoid and underlying vascular tissue forming the pedicle. Now the trigger is pressed so that the rubber bands on the inner cylinder of ligating drum strangulate about 1 cm diameter of tissue. The procedure was repeated with another haemorrhoid. Complication rate is <1%. TECHNIQUE Of Sclerotherapy: No special preparation necessary other than a empty rectum. The proctoscope is introduced and haemorrhoids are displayed, proctoscope is further introduced until haemorrhoids almost disappear with only upper end visible. The injection is made at this point above the main mass of the haemorrhoid into the sub mucosa or just above the anorectal ring injecting 1 ml of sclerosant with the bevel of needle towards the base of haemorrhoids & perivascular area. It is most important not to inject too deeply, particularly anteriorly ,because of the risk of entering the prostate, seminal vesical, or even in base of urinary bladder causing hematuria, hematospermia & prostatitis. Sufficient sclerosant should be injected under the mucosa to raise a white wheal, which eventually ulcerates and cause mucosal fixation, thus preventing the haemorrhoids from descending into the lower anal canal. The injection should produce elevation and pallor of the mucosa. All three piles can be injected seperately-1 ml in each site in single sitting. Technique can be repeated after 6 weeks. Complication rate <2%. All patients are given proper Post.op.advise & follow up.
RESULTS
In this prospective study the patients were divided into two groups i.e. Group A and Group B, each having 25 subjects (n=25). Group A had undergone Band Ligation, while the other group B had undergone Sclerotherapy and the following results confounded through it. Age group in this study was 20 to 66 years with mean age of 45 years. The distribution of sex was same in both the groups i.e. the number of male and female subjects were same in both the group.

<table>
<thead>
<tr>
<th>FACTOR</th>
<th>Band Ligation</th>
<th>Sclerotherapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presenting Complaint( Pain &amp; Bleeding in No.of Pts)</td>
<td>25 (100%)</td>
<td>25 (100%)</td>
</tr>
<tr>
<td>OPERATIVE TIME (Mean in mins)</td>
<td>12</td>
<td>20</td>
</tr>
<tr>
<td>POST OPERATIVE STAY (Mean in days)</td>
<td>8 hrs</td>
<td>10 hrs</td>
</tr>
<tr>
<td>Post. Op. Pain(Mean in days)</td>
<td>3.08</td>
<td>1.02</td>
</tr>
<tr>
<td>POST–OP ANALGESIA REQUIREMENT (Mean in Days)</td>
<td>3.08</td>
<td>1.02</td>
</tr>
<tr>
<td>Post. Op. Bleeding P/R( No. Of Patients)</td>
<td>6 ( 24%)</td>
<td>2(8%)</td>
</tr>
<tr>
<td>RETURN TO NORMAL ACTIVITY (Mean in Hours)</td>
<td>12.48</td>
<td>12.48</td>
</tr>
<tr>
<td>Recurrence(No)</td>
<td>1 (4%)</td>
<td>1 (4%)</td>
</tr>
<tr>
<td>Cost of Treatment( Average in Rupees)</td>
<td>125</td>
<td>250</td>
</tr>
</tbody>
</table>

Main presenting complaint in both group of patients were Pain & bleeding P/R i.e. almost in all patients. Operative time is less(average 12 min.)in Band ligation as compared to Sclerotherapy (average 20 min) Post Operative stay is similar in both techniques (Average 8 to 10 hrs). Both are day care procedure. Patients complained forPost Operative pain for average 3.08 days & 1.02 days respectively in both methods. So, Band ligation pts have more pain as compared to Sclerotherapy. So, requirement of Post op. analgesia is also less in patients with sclerotherapy as compared to Band ligation. Post Operative Bleeding P/R was found for few days in 24% of cases in Band Ligation & 2% of cases of Sclerotherapy. Resumption to normal activity is similar in both modalities, i.e. average 12.48 hours. Recurrence (4%) is similar & minimal in both techniques. Average cost of treatment is comparatively double in Sclerotherapy (250Rs.) over Band Ligation(125Rs.)

DISCUSSION
This comparative study of 50 cases who underwent rubber band ligation & sclerotherapy was done to compare the effectiveness of band ligation & sclerotherapy in treatment of symptoms of internal haemorrhoids with reference to post procedure complications, post ligation discomfort, time off work, cost effectiveness and to know its limitations. Youngest patient in the study was 20 years and eldest 65 years so wide range of patient acceptance for procedure was noted. Pain & Bleeding Per Rectum are prime symptom of internal haemorrhoids. Careful patient selection was important with second degree haemorrhoids. No anaesthesia is required for the procedure in majority cases. Rubber band ligation & sclerotherapy both are simple outpatient treatment not needing much expertise, expensive equipment or major operation theater to perform. Both procedure consumed very less time about 10 -30 minutes. However band ligation take less time as compare to sclerotherapy. Banding site to be selected above dentate line to reduce discomfort and pain. During sclerotherapy precaution should be taken not to inject sclerosant deeply to prevent injury to prostate, seminal vesicle, urinary bladder. In the same sitting Multiples haemorrhoidal bandings & two site sclerotherapy can be done without fear or severe discomfort, pain or bleeding. Post operative pain &
Post operative requirement of analgesia are less in both the procedure, however Post operative pain is less in sclerotherapy in comparison to Band Ligation in present study. Post operative bleeding per rectum is less in both the procedure, however bleeding per rectum is less in sclerotherapy in comparison to Band Ligation. Rubber band ligation and sclerotherapy both are cost effective however band ligation have low cost as compare to sclerotherapy. After rubber band ligation & sclerotherapy no severe complications were noted which required hospitalization. Antibiotic administration was not found necessary. No case of sepsis or infection or death occurred in the study. Rubber band ligation & sclerotherapy both were found effective based on significant symptom improvement with 92% symptom free at follow up. Rubber band ligation & sclerotherapy are limited to only healthy patients with first & second degree internal hemorrhoids not to be tried in immunocompromised or patients with bleeding disorder. Rubber band ligation & sclerotherapy, both, are day care procedure.

Rubber Band applied on Band Ligator

Band Applied on Piles

Rubber band ligation & sclerotherapy both are beneficial procedure in operation of apprehensive patient.

- **Post rubber band ligation complications like**
  - Pain & vague discomfort was seen in 100% cases on 1st post operative day with decreasing on 7th day of 32% cases & on 1st month only 4% cases. Bleeding per rectal was seen in 12% cases on 1st post operative day with decreasing 8% on 7th day & 0% on 1st month follow up with no further more complain. Recurrence is only 4% on 3rd month follow up.

- **Post sclerotherapy complication like**
  - Pain & discomfort was seen in 96% cases on 1st post operative day & only 4% cases on 7th day. Bleeding per rectal was seen in only 8% cases on 1st post operative day with no further more complain. Recurrence was seen only 4% cases on 3rd month follow up. After rubber band ligation & sclerotherapy 88% of patients took no time off work. Saves time for patient, doctor, staff. Saves bed rest, Patient is ambulatory following treatment can carry on routine work within 24 hrs

**CONCLUSION**

Haemorrhoids is one of the oldest diseases suffered by mankind, though most of the time not life threatening still it causes significant discomfort. Though different modalities of treatment are recommended for first & second-degree internal haemorrhoids, search for a simple, outpatient based, convenient cost effective treatment still continues. The present study was done to compare the effectiveness of rubber band ligation & sclerotherapy in the
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Treatment of 1st & 2nd internal haemorrhoids. Post operative pain is a complication which is less in sclerotherapy as compared to Banding because of ring. Post operative bleeding per rectum as a complication is less in sclerotherapy compared to band ligation because of early expulsion of ring. In the present study both these procedure was found to be very simple technique, did not need expertise or too much skill, no need anesthesia, no pre procedure elaborate work up, no expensive equipment, day care surgery, similar efficacy, equally effective in symptomatic relief, less time consuming, less post operative complication, have early resumption to work & cost effective.

REFERENCES