Original Article

The Effectiveness of Elastic Rubber Band Ligation Technique in Cases of Internal Haemorrhoids

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ABSTRACT

Objective: To study the effectiveness of the elastic rubber band ligation technique in cases of internal haemorrhoids.
Study Design: A prospective study.
Place and duration of study: This study was conducted at Jinnah postgraduate medical center Karachi during 2007-2008.
Materials and Methods: A total of 70 patients of varying degrees haemorrhoids of either sex were taken randomly. In 20 out of the 70 cases open Haemorrhoidectomy was performed by low ligation and excision (after due preparation of the patients) and in 50 cases elastic rubber band technique was performed. Tablet Bisacodyl 4-6 tablets stat were given to the patients at night before the procedure. No anesthesia was used. This procedure was performed in Left lateral position or in knee-elbow/jack-knife position.
Results: Patients with elastic rubber band ligation method were discharged at the same day (average stay was only for the procedure), with minimum complains, and post operative complications were found negligible (Pain 28, haemorrhage 6%, discomfort 14%). In contrast average stay in the cases of Haemorrhoidectomy was 5 – 26 days and complications ranged between pain and haemorrhage (95%), discharge (15%), retention of urine (10%) and faecal incontinence (15%). No case of faecal incontinence and retention of urine was observed in cases of elastic rubber band ligation technique.
Conclusion: Elastic rubber band ligation as an Out Patient procedure, is effective, economical easily performable, with minimum complications and is without hazards of anaesthesia.
Key Words: Piles, Elastic rubber band ligation, Haemorrhoidectomy

INTRODUCTION

'Haemorrhoids' is one of the most frequently occurring disease and affects one in every twenty five persons (Cohen-Zig, 1985) and 50% of population above 50 years of age (Goliger, 1948).
Hippocrates applied term "Haemorrhoids" to the flow of blood from veins of anus. Actually the word 'Haemorrhoid' is a Greek word derived from 'Haem' means bleeding and 'rhoid' means flowing. Piles is an other name given to the disease (Latin word meaning ball) which also seems to have been used widely by the public at the time of John Ardere (born 1307 A.D.). He was first to have used this term in his writings (Edwards et al 1983).
In our society Haemorrhoids are called 'Bawaseer' and are classified in two types

i. Khooni Bawaseer (Bleeding Haemorrhoids).
ii. Badi Bawaseer (Prolapsed haemorrhoids)

Various, methods of treatment are available e.g. Injection Sclero- therapy, Suppositories cream, Infra-red coagulation, Cryo-surgery, Elastic band ligation and Haemorrhoidectomy.
Since 1888 apart from surgery conservative treatment are universally used (Dennison 1989). Conservative treatment of Internal Haemorrhoids by ointment, Injective sclerotherapy or Rubber band ligation is effective in 89% of patient while in External Haemorroids conservative treatment is effective in 66% (Ahmed et al 1990) of the cases.
Most usual treatment is haemorrhoidectomy, but majority of population is illiterate and afraid of anesthesia and operation and the wound may also take one and half month to heal and in some cases postoperative dilation is needed.
As far as the convenience of patient is considered one of the easier procedure in the treatment of Haemorrhoids is elastic rubber band ligation. No hospitalization is needed, minimum complication, time consumption, require less investigations and patient may be discharged on the same day.
Every person wants easy and quick economical, procedure, which should not interfere with their work. Elastic rubber band ligation has minimal side effects, good results, easy, less time consuming and economical. So keeping all these facts in mind we conducted this study to look for cost effectiveness of rubber band ligation with other procedures.

MATERIALS AND METHODS

This (prospective study) was conduced at surgical unit one at the Jinnah postgraduate medical center Karachi. A Performa specially designed was used, including name, age, sex, occupation, socioeconomic status, address, presenting complains, history of presenting complaints, family history, physical examination, systemic examination, laboratory investigation, and treatment. Investigations were performed when found necessary i.e. Blood Complete Picture, Erythrocyte Sedimentation Report, Urine Detail Report, X-ray Chest, Electrocardiogram, Stool Detail Report, and Ultrasound of abdomen, Sigmoidoscopy and Barium enema.

Total seventy cases were selected (selection criteria). Twenty cases were operated for (Haemorrhoidectomy) and on fifty cases elastic rubber band ligation was performed. No special preparation was necessary for elastic rubber band ligation, except Tablet Bisacodyl 4-6 tablets at night before the procedure. No anesthesia was used. This procedure was performed in left lateral position or in knee-elbow/jack-knife position.

After per rectal examination liquid paraffin lubricated proctoscope was introduced and haemorrhoids were grasped and banded. Not more than two haemorrhoids were banded at a time in order to reduce the pain edema and circumferential large ulceration. At least three weeks gap was observed between banding procedure. Ligated haemorrhoids sloughed off mostly on the seventh day after procedure.

Twenty patients selected for Haemorrhoidectomy were admitted and prepared for operation. Open Haemorrhoidectomy of low ligation and excisation type was done.

Statistical analysis was done on computer soft ware SPSS.

RESULTS

From this study we observed following important facts.

Age and sex incidence of the Haemorrhoids:

From our study it became apparent that Haemorrhoids are most prevalent between 3rd and 4th decades of life i.e. 31% and 28% of the cases respectively and 82% of case were male and 18% female. (Table.1)

Signs and symptoms:

Following signs and symptoms were found in our patients, bleeding and prolapse (95%), pain (35%), discharge (15%), itching (6 %) of the cases. Anaemia was present in over all (40 %) of our cases.

Degree of piles:

1st and 2nd degree were found in 28% of cases and 3rd degree piles were found in 44% of cases.

Professional back ground:

We found that 40% of cases were field workers. Other professions affected are as follows, office worker 24%, shopkeepers 16%, house wives 6%, farmer 2% and teachers 2 %. (Table.2)

History of Past illness:

History of Past illness of patient showed hypertension 11%, chest problems 5%, asthma 3%, and diabetes 2% of cases.

Regarding hospital stay:

In cases of rubber band ligation most of patients were treated as out patients and hospital stay was not required. One case was admitted for three days for Sigmoidoscopy and colonoscopy and blood transfusion and was discharged after rubber band ligation and two cases were admitted for transfusion before the rubber band ligation because their hemoglobin was low and were discharged after rubber band ligation.

Post operative complains in the cases of rubber band ligation: Following complaints were found, pain 28%, discomfort 14%, haemorrhage 6% itching and discharge in 2% of the cases respectively as shown in table 3.

Post operative complains in the cases of Haemorrhoidectomy:

Haemorrhage and pain in 95% of cases, itching and discharge in 15% of cases, acute retention of urine in 10% cases and faecal incontinence in 15% of cases.

Number of days off from work:

In cases of rubber band ligation 68% reported to work on next day and only 10% remained off work for two weeks time after procedure. In cases of Haemorrhoidectomy off the work figure was 4, 5, 6, and 8 week i.e. 25%, 15%, 5%, 20% respectively.

DISCUSSION

Haemorrhoids are one of the most common diseases of mankind. Actual incidence is unknown since many patients with minor symptoms do not come for advice, many even with severe discomfort do not show their anal region due to shyness (Hawley, 1973).

Haemorrhoids have been more commonly observed in people of lower socioeconomical group and in people with profession which involves working for long period of time in standing position (Table 2).

Peak incidence is in 3rd and 4th decade and predominant in male (as mentioned in Table 1) this is supported by Teramoto et al 1989.

It is observed from the study that disease neither has rising incidence with age as was observed by Hass et al 1984 and nor is prevalent in all age group as observed by Melvin 1985. Youngest patient was 17 years old and oldest was 85 years old.

Rubber band ligation was introduced by Blaisdell in 1958 and refined by Barron in 1963. This procedure

was observed as good procedure in patients suffering from ischaemic heart disease, hypertension, chronic bronchitis, asthma, jaundice, diabetes mellitus etc.

In our experience most patients with rubber band ligation needed only an initial outpatient visit at which assessment and treatment was under taken followed by single visit two weeks later. The cost effectiveness, safety and ease of treatment for both patients and doctors combined with good clinical results which have been obtained have increased the popularity of rubber band ligation. Rubber band ligation also provides a lasting effect of rectal bleeding, haemorrhoidal prolapse anal pain pruritis and soiling. This technique can be performed in the out patients in a few minutes without anaesthesia. One great advantage of ligation therapy of internal haemorrhoids is that so many patients can get relief from their haemorrhoids despite serous illness or advanced age. This procedure is as effective as haemorrhoidectomy and rather more effective than sclerotherapy, cryosurgery (Sims et al 1981, Williams and Crapp 1975). This is in agreement with our findings.

Hospital stay is negligible while after Haemorrhoidectomy minimum hospital stay was 5 days and maximum stay was 26 days.

Main criticism of rubber band ligation is that it does nothing to remove skin covered component of pile or an associated skin tag. However lower remaining portion of haemorrhoid may under go some shrinkage the bothering part may latter be removed under local anaesthesia as an out door procedure.

Slipping of bands is a disadvantage of this procedure. The incidence of slippage can be reduced to some extent by better selection criteria. As 2nd and 3rd degree Haemorrhoids are more suitable for this procedure. Cases of 1st degree haemorrhoids are not suitable because sufficient tissue is not available for application of bands

For third degree haemorrhoids with large skin component rubber band has very limited value so there is no substitute for surgical treatment. Fourth degree hemorrhoid is not suitable for rubber band ligation.

CONCLUSION

From our study it become apparent that elastic rubber band ligation is very important technique as far as the haemorrhoids are concerned. It is Out Patient procedure with excellent results. It has easy procedure which can be performed even in patients suffering from other systemic illnesses (as mentioned earlier in the results and dicussion). As anaesthesia is not given so anaesthesia hazards are no more there. Its postoperative complications were found minimal and is very much economical procedure.

Table No.1: Age Incidence of Patients

Age Range Between = 17-85 Years			
Total Number of Cases 70			
Serial Number	Age range	Number of patient	Percentage
1.	11-20	04	05%
2.	21-30	09	12%
3.	31-40	22	31%
4.	41-50	19	28%
5.	51-60	10	14%
6.	61-70	04	05%
7.	71-80	01	02%
8.	81-90		02%

Table No.2: Occupational History of Patients

Total Number of Cases= 70			
Serial number	Occupation	Number of cases	Percentage
1.	Field workers	26	38%
2.	Office Worker	16	22%
3.	Shopkeepers	12	17%
4.	House wives	07	10%
5.	Farmers	05	07%
6.	Teachers	03	05%
7.	Contractor	01	01%

Table No.3: Postoperative Coplications after Rubber Band Ligation

TOTAL NUMBER OF CASES=50			
Serial number	Complications	Cases	Percentage
1.	Haemorrhage	3	6%
2.	Pain	14	28%
3.	Discomfort	7	14%
4.	Itching	1	2%
5.	Discharge	1	2%
6.	Acute retention	0	0%
7.	Faecal incontinence	0	0%

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