Open Haemorrhoidectomy Versus Rubber Band Ligation

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ABSTRACT

Objective — *To assess the results of open haemorrhoidectomy and rubber band ligation in terms of post operative pain and bleeding in 3rd degree haemorrhoids.*

Study design — *A comparative study.*

Place & Duration of study — *Surgical unit Hayatabad Medical Complex Peshawar, from July 2009 to June 2010.*

Methodology — *A total of 100 patients were included. These were randomly divided in two groups; A and B and each group had 50 patients. Group A patients underwent open haemorrhoidectomy while group B patients had rubber band ligation procedure. Post operative complications like pain and bleeding between the two groups were compared.*

Results — *Out of 50 patients in group A, 72% (n=36) had pain and 20% (n=10) had post operative bleeding, while in group B pain was present in 08% (n=4) and post operative bleeding in 04% (n=2) patients. P values for pain (0.007) and bleeding (0.04) were significant in favour of group B.*

Conclusion — *Rubber band ligation is a safe and quick procedure. It is associated with less intensity postoperative pain and bleeding as compared to open haemorrhoidectomy.*

Key words — *Rubber band ligation, Open haemorrhoidectomy, Post operative complications.*

INTRODUCTION:

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.[1] Haemorrhoid 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.[2] Fifty 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.[3] The high prevalence of this disease stimulated many surgeons to work and devise various methods of management for haemorrhoids.[1]

The treatment of haemorrhoids is directed at alleviating its varying symptomatology.[4,5] 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.[4,5,8]

Rubber band ligation was introduced by Blaisdell in 1958 and popularized by Barron. Later on the procedure became known by the name of Barron.[1] It 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

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efficacy.[4,5] Furthermore there is an association, although rare, with serious adverse events including pelvic sepsis and Fournier's gangrene.[5] On the other hand, open haemorrhoidectomy seems to produce the most sustainable symptom control with less need for retreatment.[4,5] This is considered by many surgeons as the "gold standard" treatment for symptomatic haemorrhoids.[9] However, 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 pain and bleeding.

METHODOLOGY:

This comparative prospective study was conducted as a double blind trial. It was carried out at surgical unit, Hayatabad Medical Complex Peshawar from July 2009 to June 2010 and included a total of 100 patients. The patients were randomly divided into two groups. Group A included patients in whom open haemorrhoidectomy was done, while patients in group B underwent rubber band ligation procedure. Patients having 3rd degree haemorrhoids were selected for this study. The age range of the patients was 21 year - 70 year.

A detailed history was taken and digital rectal examination (DRE) and proctoscopy were performed. An informed consent was taken from all the patients before the procedure. Rubber band ligation was performed without anaesthesia. A proctoscope was inserted into the anal canal. A rubber band gun with pistol grip was applied to the fundus of haemorrhoid. Through the circular tip of the gun, the fundus of haemorrhoid was held, gentle traction was applied and gun fired. Two rubber bands were pushed from the gun to the base of the haemorrhoid. Open (Milligan Morgan) haemorrhoidectomy was carried out under general anaesthesia. Patient was put in lithotomy position. Haemorrhoids were identified by passing a proctoscope and gradually withdrawing it back. A V-shaped incision was made; haemorrhoids were dissected, ligated and excised.

After the procedure, patients were observed for any post operative complication especially significant post operative pain and bleeding. A pain score more than 5 according to visual analogue scale was considered significant, while significant bleeding was defined as a bleed which was approximately more than 100cc or needed to keep the patient in hospital for observation or to take the patient back to theatre or required blood transfusion. At the time of discharge from hospital, patients were instructed to visit OPD at 2nd and 6th post operative week for any complication. At 1st visit, after 02 weeks, patients were asked for post operative pain and bleeding beside other complications while at 2nd visit, digital rectal examination / proctoscopy was performed to rule out any complication. Data was collected and analyzed by SPSS version 10. Chi squere test was applied. P values for post operative pain and bleeding were calculated.

RESULTS:

The mean age of the patients was 45 ±2.8 year. Both groups had 50 patients. Fifty five (55%) patients were male and 45 (45%) females with male to female ratio of 1.2:1.

Ninety percent of the patients had received non operative treatment elsewhere, while five had previous haemorrhoidectomy. Ninety five (95%) patients presented with bleeding per rectum and associated prolapse (table I). The average time of surgery for group A patients was 30 minutes and for group B, 10 minutes.

In rubber band ligation group, 04 (08%) patients complaint post operative pain and 02 (04%) had post procedure bleeding while in haemorrhoidectomy group, 36 (72%) patients had post operative pain and 10 (20%) had bleeding immediately or 02 weeks after surgery. These values show a significant difference between the two procedures in terms of pain (p 0.007), postoperative bleeding (p 0.04) and post procedure urinary retention (p 0.04). The other post operative complications included urinary retention, mucous discharge, flatus incontinence and low back pain (Table II). After completion of 06 weeks follow up, no patient had any significant pain or bleeding in each group.

Table I: Presentations (n = 100)

Symptoms	No of patients	%
Bleeding per rectum	95	95
Self reducible prolapse	65	65
Manually reducible prolapse	30	30
Constipation	80	80
Itching	50	50
Burning sensations	15	15

Table II: Postoperative Complications (n = 100)

	Group A (OH)	Group B (RBL)	P value
Complications	No of cases	No of cases	0.007
Post operative pain	36 (72%)	04 (08%)	0.04
Post operative bleeding	10 (20%)	02 (04%)	0.04
Urinary retention	12 (24%)	02 (04%)	0.04
Mucous discharge	06 (12%)	02 (04%)	0.12
Flatus incontinence	02 (04%)	00 (00)	0.09
Low back pain	02 (04%)	00 (00)	0.10

DISCUSSION:

The need to treat haemorrhoids is based primarily on the severity of symptoms but the type of treatment is based on traditional classification of haemorrhoids, which may have little to do with symptoms severity.[5,10] A wide variety of treatments has added to this confusion. The question of best treatment remains unanswered despite most of the techniques in use having being subjected to randomized evaluation.[5] Rubber band ligation is a new way of minimal access surgery and is quickly gaining popularity because it is safe (no anaesthesia required), quick and simple way of dealing with haemorrhoid disease.[1] Haemorrhoids are common in males than females.[7] In this study the male to female ratio was 1.2:1 which is almost similar to other studies.[11,12]

Bleeding, constipation, itching, prolapse and soiling are the classic symptoms in haemorrhoidal disease but patients sometimes report a variety of other symptoms.[1,7,13] Post operative complications are comparatively common after surgical treatment of haemorrhoids.[7] In this study, in group A (open haemorrhoidectomy), 72%(n=36) patients had post operative pain. This figure is comparable to 75% reported by Essa BES et al but lower than 80% as reported in other study.[14] Essa BES et al also reported the beneficial effects of lateral sphincterotomy alongwith haemorrhoidectomy. They reported pain in 03% patients after lateral sphincterotomy. Similarly many surgeons advise supplementary caudal anaesthesia and post operative infiltration with bupivacaine to reduce post operative pain.[15] Afsar et al advocate anal stretch and sphincterotomy along with haemorrhoidectomy.[16]

In our study 08% (n=4) patients treated with rubber band ligation, had post procedure pain. This is comparable to 7.5% reported by Mattana et al.[17] Law WL et al carried out a study on post operative pain after bupivacaine injection in triple rubber band ligation but their results showed insignificant effect. There is no contraindication to banding of all haemorrhoids in a single session but many surgeons still prefer to band 1-2 haemorrhoids in one session.[18] Barron himself used to ligate one haemorrhoid in one session. The reason behind avoiding triple band ligation is the stretching of mucosa which causes pain and even stenosis.[1] The cause of pain in rubber banding is the application of band below the dentate line.[19] Gupta PJ compared rubber band ligation with infrared therapy and reported that rubber band ligation is associated with more pain but less chances of recurrence.[20]

Post operative bleeding occurred in 20% (n=10) patients after open haemorrhoidectomy. On examination, there was no active bleeding but just oozing from the raw surfaces. Seven (14%) out of 10 (20%) patients responded to conservative measures while 03 (6%) patients were shifted to operation theatre for resuturing under general anaesthesia. This figure is higher as compared to 4.2% reported by Johnstone CS et al.[21] In our study there was minor bleeding in 4% (n=2) of patients after rubber band ligation which needed no active surgical management. Interestingly this bleeding did not occur in early post operative period, but noted 2-3 weeks post operatively when probably the haemorrhoids sloughed away after band application.

CONCLUSIONS:

Rubber band ligation is a quick, safe and cost effective procedure for treating 3rd degree haemorrhoids. It is performed as a day case procedure because of its minimal post procedure complications.

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