

COMPARISON OF MORBIDITY IN RUBBER BAND LIGATION AND MILLIGAN MORGAN HEMORRHOIDECTOMY

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ABSTRACT

Background: Hemorrhoidectomy treatment has multiple options, depending on grade of disease. **Objective:** This study was conducted to compare the postoperative morbidity of rubber band ligation (RBL) and milligan morgan haemorrhoidectomy in terms of frequency of pain and bleeding in patients with third degree hemorrhoids. **Material and Methods:** This study was conducted in Department of Surgery, District Headquarter Hospital Faisalabad, affiliated with Punjab Medical College from 25th January, 2012 to 24th January, 2014. This study included 140 (70 in each group) patients of grade 3 hemorrhoids. Patients were randomly allocated into either the rubber band ligation (RBL) group or milligan morgan haemorrhoidectomy groups by using computer generated random number tables. Both groups were observed for the impact of these treatment modalities on post operative pain and bleeding. **Results:** In group A, 49 patients (70%) and in group B, 47 patients (67.2%) were male. Regarding postoperative pain, 2 patients (2.9%) of group A and 22 patients (31.4%) developed mild postoperative pain ($p < 0.001$), 1 patient (1.4%) of group A and 31 patients (44.3%) of group B faced moderate postoperative pain ($p < 0.001$), 1 patient (1.4%) of group A and 11 patients (15.7%) has severe postoperative pain ($p = 0.002$). In group A, 2 patients (2.9%) and in group B, 10 patients (14.3%) has mild postoperative bleeding, 1 patient (1.4%) in group A and 8 patients (11.4%) in group B developed severe postoperative bleeding. **Conclusion:** RBL is a reliable and safe procedure with minimum complications and morbidity after the procedure.

Key words: Milligan Morgan Haemorrhoidectomy, Rubber Band Ligation, Pain, Bleeding.

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INTRODUCTION

Haemorrhoids are vascular and connective tissue cushions which exist in three columns in the anal canal. Treatment options vary according to grade of the disease and symptoms of the patient and range from dietary modifications and topical applications to office procedures like injection, sclerotherapy and rubber band ligation to surgical treatments like haemorrhoidectomy and stapled anopexy.^{1,2,3} Out of these, rubber band ligation (RBL) and haemorrhoidectomy are the most commonly performed procedures.⁴

Rubberband ligation is the most commonly performed outpatient procedure for symptomatic first, second and third degree haemorrhoids and provide a cure for majority of the patients.^{3,5} It involves the application of rubber bands to anal mucosa just above the dentate line leading to necrose of the haemorrhoids and causing fibrosis to lift the hemorrhoids up in the anal canal thus minimizing symptoms. Initially only one haemorrhoid was ligated but multiple ligations

have been shown to be safe and tolerable.^{1,3,5} RBL had the advantage of being an outpatient procedure that required no anaesthesia and had very low incidence of significant complications.⁶ Haemorrhoidectomy can be performed with a number of techniques and Milligan Morgan haemorrhoidectomy being a very common one.⁷ In that technique, haemorrhoids are dissected, transfixed or secured with diathermy and excised leaving the defects in the anoderm to heal with granulation. Although surgical haemorrhoidectomy is a more definitive treatment option for haemorrhoids but it has the reputation of being a very painful procedure for a relatively benign disorder. Most operations are performed under general or regional anaesthesia.⁶⁻⁸

Theoretically, RBL should be painless as ligation was performed above the dentate line which was devoid of sensory nerves. RBL was considered an option primarily for second degree haemorrhoids but various studies point out that there is no significant difference in the outcome of RBL in second and third degree haemorrhoids.^{3,5,9} However, Milligan Morgan haemorrhoidectomy was still the gold standard and is widely used for 3rd and 4th degree haemorrhoids.^{7,8}

This study was planned to compare the outcome of the two therapeutic options in third degree hemorrhoids because very few studies have been done regarding the comparison of two options in third degree hemorrhoids. Rubber band ligation which is a potentially advantageous yet an

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underutilized procedure for third degree haemorrhoids, may be suggested to be used more often in future if the results of this study confirm the relative benefits. This study was conducted to compare the postoperative morbidity of rubber banded ligation and milligan morgan haemorrhoidectomy in terms of pain and bleeding.

MATERIALS AND METHODS

This was a randomized clinical trial done on patients presented with hemorrhoids at DHQ Hospital, Faisalabad from 25th January, 2012 to 24th January, 2014. This study included 140 patients (70 in each group) of both sexes and of any age diagnosed clinically as having hemorrhoids. Only the patients with grade-3 hemorrhoids (Table I) were included in this study. Patients were randomly allocated into either the rubber band ligation (RBL) group A or milligan morgan haemorrhoidectomy group B by using computer generated random number tables. Both groups were studied for the impact of these treatment modalities on post operative pain and bleeding. Pain was recorded on a ten point visual analog scale that was 10cm strip of paper with '0' marked on the extreme left side meaning no pain at all and on the extreme right there was marked '10' meaning the worst pain ever the patient has felt. Pain was categorized as mild, moderate and severe.^{9,10}

Postoperative bleeding: Postoperative bleeding was recorded as mild bleeding if there were only a few drops on straining or mild dressing soaking in the case of haemorrhoidectomy (dressing was done only in the case of haemorrhoidectomy). Or it was categorized as being severe if it was in the form of splash of blood on defecation. All the data was noted on a questionnaire before analysis. The statistical analysis was performed by using the SPSS version 17.0. The ethical approval from hospital ethical committee was sought. Informed verbal consent was taken from all the patterns. (Table I).

Table I: Hemorrhoids grading/ degrees

First degree	Bleeding No prolapse
Second degree	Prolapse at defecation (with or without bleeding) with spontaneous return to anal canal.
Third degree	Prolapse (with or without bleeding) requiring repositioning.
Fourth degree	Irreducible prolapse.

RESULTS

A total of 140 patients (70 patients in each group) were taken during the study period. Patients in group A were discharged 2 hours after the procedure while those in group B were discharged on 2nd post operative day. In group-A, 49 patients (70.0%) and in group-B, 47 patients (67.2%) were male. (Table-II).

Regarding postoperative pain, 2 patients (2.9%) of group-A and 22 patients (31.4%) developed mild postoperative pain ($P < 0.001$), 1 patient (1.4%) of group-A and 31 patients (44.3%) of group-B faced moderate postoperative pain ($P < 0.001$), 1 patient (1.4%) of group-A and 11 patients (15.7%) has severe postoperative pain ($P = 0.002$) (Table III).

In group A, 2 patients (2.9%) and in group B, 10 patients (14.3%) has mild postoperative bleeding, 1 patient (1.4%) in group-A and 8 patients (11.4%) in group-B developed severe postoperative bleeding (Table-IV).

Table II: Distribution of cases by gender

Gender	Group -A Rubber band ligation		Group -B Milligan Morgan haemorrhoidec tomy	
	No.	%	No.	%
Male	49	70.0	47	67.2
Female	21	30.0	23	32.8
Total	70	100	70	100

Table III: Postoperative pain

Pain	Group -A Rubber band ligation		Group-B Milligan Morgan		2 P value
	No.	%	No.	%	
Mild	02	02.9	22	31.4	20.11 $P = 0.001$
Moderate	01	01.4	31	44.3	36.46 $P = 0.001$
Severe	01	01.4	11	15.7	9.44 $P = 0.002$
No pain	66	94.3	06	08.6	102.94 $P = 0.001$

Table IV: Postoperative bleeding

Bleeding	Group -A Rubber band ligation		Group -B Milligan Morgan		2/ P value
	No.	%	No.	%	
Mild	02	02.9	10	14.3	5.83 $P = 0.015$
Severe	01	01.4	08	11.4	5.82 $P = 0.015$
No bleeding	67	95.7	52	74.3	12.61 $P = 0.001$

Follow Up

Patients in both groups were examined on 7th day, 2 weeks, 3 months and 6 months postoperatively, for postoperative pain and bleeding.

DISCUSSION

Haemorrhoids are varicose veins of the rectum covered by mucosa at or near the anal canal. They are normally asymptomatic, can occur at any age and affect both males and females.^{10,11,12}

Haemorrhoids occur in approximately 30% of the population. Commonly, occurring complaints included blood loss, pruritus, hygiene problems and soiling. A high-fibre diet, with dietary-fiber supplementation if required, often resolved the symptoms. When symptoms were not resolved, the next step is rubber band ligation: a safe and easy procedure. Haemorrhoidectomy was formerly the only alternative. Haemorrhoidectomy can be accompanied by serious complications such as disabling pain and incontinence. Haemorrhoidectomy was therefore considered obsolete by the Dutch Institute for Healthcare Improvement (CBO) guideline of 1994.^{13,14,15} This study was conducted out to compare the outcome of the Rubber band ligation with Milligan Morgan haemorrhoidectomy in patients with 3rd degree haemorrhoid disease in terms of frequency of pain and bleeding in patients with third degree hemorrhoids.

Haemorrhoids can occur at any age but the peak incidence is found in 5th decade of life.^{16,17,18} Aroya et al reported that the mean age of the patients presenting with haemorrhoids were 43.5 years.¹⁶ In present study most of the patients were between 46-60 years of age and their mean age was 47.5±9.1 years. The majority of the patients in this study were male. When compared to other studies, You et al, reported a male to female ratio of 1:1.¹⁷ Comparable results were presented in two studies by Ahmed et al, Rafiq and Scott.^{18,19} The present study is comparable with that of Khubchandani who had a male: female ratio 70:30.²⁰ This may be due to the fact that the most of the women suffering from haemorrhoids fail to seek any medical assistance due to social and cultural factors. They usually present late in the course of the disease only when their symptoms became unbearable.

The use of VAS scores is well accepted and although the scores for the Milligan-Morgan group remain high at the end of the 10 days it should be noted that there was wide variation.^{21,22,23}

In current study, most of the postoperative

complications were found higher in Milligan Morgan haemorrhoidectomy as compared to rubber band ligation group. The pain observed was significantly higher in Milligan Morgan haemorrhoidectomy group when compared with rubber band ligation ($P<0.001$).

In present study, bleeding was a significant complication of Milligan Morgan group 25.7% (Mild 14.3% and severe 11.4%) compared to Rubber band ligation 4.3% group (Mild 2.9% and severe 1.4%). It was treated conservatively in all cases without hospitalisation or blood transfusion. Our results are supported by Al Mulhim et al,²⁴ and Hadi et al.²⁵ Kumar et al also demonstrated that rubber band ligation (RBL) is an effective treatment for haemorrhoids.²⁶

CONCLUSION

The rubber band ligation is an efficient and simple outpatients procedure for symptomatic third degree haemorrhoids with minimum complications. RBL is reliable and safe procedure with low morbidity and no use of any anesthetic drugs.

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