

Original paper

## A Comparative Study OF Three Lines Of Surgical Management Of Hemorrhoidal

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### Abstract

**B**ackground: Disease is a common problem in surgical practice is hemorrhoidal disease.

**Objective:** to compare three different methods of treatment of second and uncomplicated third degree piles.

**Subject and Methods:** This prospective study compares three different methods of treatment in 180 patients of second and uncomplicated third degree piles. The patients were allocated randomly in equal numbers to three groups: Group A- treated by conventional excision ligation Milligan Morgan, Group B-treated by pilesuture and Group C-treated by rubber band ligation.

**Results and Discussion:** The average period of follow up after completion of treatment was 36 months. Patients were assessed for early complications; Pain-Urine Retention-and bleeding. Late complications;-anal stenosis, recurrence-Length of hospital stay and Time-off work. We consider that conservative treatment methods are preferable to conventional excision ligation for treatment of second and early third degree piles.

**Conclusion:** Of the two conservative methods used in this study, the pile suture seems to be the method of choice.

**Key words:** Surgical treatment of hemorrhoids, complications, pile suture.

### Introduction

Hemorrhoidal tissue is a part of the normal anal anatomy, composed of a cushion of submucosal vascular and connective tissue, and is located in the upper part of the anal canal, above the dentate line. The tissue is more prominent in the right anterior, right posterior, and left lateral positions, thus forming three separate complexes.

The presumed function of this tissue is to improve closure of the anal canal. <sup>(1)</sup>

Hemorrhoids are a distension of the normal vascular haemorrhoidal cushions. *Internal haemorrhoids* are submucosal and above the dentate line. Initially, symptoms are confined to bleeding, during or after, defaecation (1st degree). The lax mucosa,

which is separated from the underlying muscle wall by the distended vascular plexus, later prolapses along with the haemorrhoidal tissue during defaecation, but reduces spontaneously after defaecation (2nd degree). Haemorrhoids which no longer reduce spontaneously (3rd degree) require digital replacement. <sup>(2)</sup>

One of the commonest problem met in surgical practice is piles disease <sup>(3)</sup>. The variety of treatment only serves to prove that none of them is entirely satisfactory. Although different techniques have emerged (laser-Cryosurgery-etc.) the commonest operation in practice is still the conventional excision-ligation which is associated with severe post-operative pain, relatively long-stay and a high incidence of anal stenosis <sup>(4)</sup>. The reluctance of many patients to undergo excisional surgery has led to

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the development of other less invasive forms of treatment of which the latest is pile suture. This prospective study compares the results of three different methods of treatment. conventional excision, ligation, pile suture and rubber band ligation, to find out which methods is preferable.

## Patients & Methods

This study was carried at Al-Hussein teaching hospital and private hospitals and clinics for a period from 1<sup>st</sup> August 2009 to 31<sup>st</sup> December 2013. 180 consecutive patients with second and uncomplicated third degree piles were admitted to the trial. Males/female ratio 3.5 (140/40). Their average age was 35 years (ranging from 21-70 years). Patients were randomly allocated into three groups each of 60 patients as follows.

Group A - treated by conventional excision and ligation

Group B - treated by pile sutured

Group C - treated by rubber band ligation. To avoid bias created by variability in the manual dexterity of different surgeons as well as variability in post-operative assessment.

All patients were operated upon by researcher with cross follow-up by a different surgeon from the same team. Postoperative assessment was done daily during the hospital stay, weekly for the first month, Monthly for 1 year and thereafter every 6 months. The average period of follow-up after completion of treatment was 36 months.

Assessment included;-

1. Early complications a. Pain, b. Urine retention. c. Bleeding
2. Late complications a. Anal stenosis b. Recurrence
3. Length of hospital stay and time –off work in days.

The excision and rubber band ligation methods are well known.

The **pile suture method** is performed under spinal or general anesthesia. The

skin is held by tissue forceps at the mucocutaneous junction corresponding to each pile. A curved haemostat is applied to each pile and three interrupted sutures of No.0 chromic catgut are passed through the mucous membrane beneath.

The proximal suture is inserted at the tip of the haemostat to occlude the superior haemorrhoidal vessels. The distal suture is introduced into the distal end of the internal hemorrhoid above the pectinate line to interrupt the connection between the external and internal plexuses. The third suture is applied between the proximal and distal sutures. Then the three sutures are tied after removing the hemostat. Excessive skin tags to each pile are excised. Average operative time is 12 minutes. The statistical tests applied in this study were X<sup>2</sup>-test with Yates correction and Students t-test as appropriate.

## Results

Early post-operative complications:-  
Postoperative pain : our assessment for pain was based on the amount of analgesic needed during the first two post-operative days. mild pain was relieved by Diclofenac ampoule moderate pain needed only one 100 mg Pethidine ampoule ; and severe pain needed two or more ampoules of Pethidine.

Table 1 shows the marked reduction in the severity of postoperative pain in Groups B and C compared to Group A. During the remaining period of hospital stay; the patients in the pile suture group did not require any sort of analgesics to control their pain up to the 5<sup>th</sup> Post-operative day. Three patients of the rubber band ligation group developed severe pain, one needing hospital admission for 2 days, while the other two received more than two Pethidine ampoules as outpatients.

Post-operative urine retention (requiring catheterization):

Table (1) shows that 9 patients = 15% in group A required catheterization while

none from group B and C developed such complication

**Table 1.** Showed incidence of early postoperative complications

Complication	Group A		Group B		Group C	
	No.	%	No.	%	No.	%
Severe pain	19	31.7	4	6.7	3	5
Urine retention	9	15	0	0	0	0
Reactionary	1	1.7	0	0	0	0
Secondary	0	0	0	0	1	1.7

A vs B  $\chi^2=10.45$   $p<0.01$ , A vs C  $\chi^2=12.52$   $p<0.001$ , B vs C  $\chi^2=0.50$   $p>0.50$ , A vs B or C  $\chi^2=7.69$   $p<0.01$

Postoperative bleeding This means alarming bleeding necessitating blood transfusion or surgical interference. This occurred as reactionary bleeding in one patient belonging to group A and a secondary bleeding in another patient in group C.

Late postoperative complications (Table 2).

Postoperative anal stenosis we diagnosed stenosis when the anus was passable to the finger and not to the proctoscope. 4 patients (6.6%) of group A developed such a stenosis which necessitated the use of dilators. None from group B or C developed such complication.

Recurrence; This means the recurrence of the preoperative symptoms. None of the patients in group A developed recurrence

but in group B 2 patients 3.3% did so (statistically insignificant). one of them developed mucosal prolapsed and needed excisional surgery. The other patient developed foreign body granuloma at the distal end of left lateral hemorrhoid which required surgical excision under short general

anesthesia 3 months later. This case give us the chance to inspect the end result of the other 2 he subsequent hemorrhoids under anesthesia, right anterior and right posterior which was a thin fibrous band sliding easily on the underlying layers. In Group C (13) patients =21.7% required subsequent excisional surgery. five of them had mucosal prolapsed ,three had bleeding and five developed external piles.

**Table 2.** Incidence of late postoperative complication:-

Complication	Group A		Group B		Group C	
	No.	%	No.	%	No.	%
anal stenosis	4	6.6	0	0	0	0
recurrence	0	0	2	3.3	13	21.7

A vs B or C  $\chi^2=2.33$   $P>0.10$ , A vs B  $\chi^2=0.51$   $P>0.10$ , A vs C  $\chi^2=12.4$   $p<0.001$ , B vs C  $\chi^2=7.62$   $p<0.001$

Hospital stay and time off work in days:-

Table (3) shows the statistically significant reduction in the length of hospital stay and the length of time off work in group B as compared to group A. Group C completed their treatment in two or three group outpatient sessions but two of this group needed hospitalization one for 2days because of severe pain and other for 4 days because of secondary bleeding.

## Discussion

Excisional hemorrhoidectomy being the most (radical) form of treatment probably procedures the most satisfactory overall long-term result. However this form of treatment makes extravagant demands on both hospital and patient. In comparison to more conservative methods of treatment used in our study (pile suture and rubber band ligation methods), it was found that its use over a broad spectrum of patients is not justified<sup>(5)</sup>.

**Table 3.** Length of hospital stay and time off work in days

	Group A	Group B	Group C
Complication	Excision ligation	pile suture	Band ligation
Hospital stay length	6—10	3—5	0--4
Mean	7.4	3,5	0.10
Length of time off work	20—28	7—10	4--8
Mean	22.3	8.3	5.5

A vs B,  $t=18.7p<0.001$  A vs B,  $t=35.1 p<0.001$  A vs C  $t=42.32p<0.001$  B vs C  $t=11.86p<0.001$

It should perhaps be confined to those patients with complicated third degree piles or failure of more (conservative) forms of treatment. From our results it seems that conservative surgical techniques for second and uncomplicated third degree piles are preferable to the excision ligation method for the following reasons;

1. Less postoperative pain
2. Lower incidence of urinary retention
3. Less bleeding Per-operative and postoperative
4. Shorter operative time
5. Shorter hospital stay
6. Shorter time off work
7. No incidence of late postoperative anal stenosis.

The pile suture is preferable to banding because of the statistically significant reduction in recurrence rate. Also large external hemorrhoids and or skin tags which are major nuisance to our patients can be dealt with at same time.

Rubber band ligation if used in late second degree piles may lead to problems with external piles and skin tags and if used in early second degree piles there will not be enough tissue to pull on and this will lead to severe pain. This means that the rubber band ligation method should be applied only to highly selected cases of second degree piles. It is true that patients in group C were treated as outpatients without anesthesia whereas the mean hospital stay for patients in group B was 3.5 days yet the other advantages of pile suture far outweigh this point.

Our results were similar to some studies<sup>(6,7)</sup> which proved that pile suture were best conservative surgical techniques for

second and uncomplicated third degree hemorrhoids.

Also RAJKAMAL and his colleague<sup>(8)</sup> find that most conservative pile suturing is much better than open hemorrhoidectomy in matter of hospital stay, post-operative pain, operative time and in complication and is equivalently as effective as open hemorrhoidectomy. Some studies proved different results from our results<sup>(9)</sup>.

## Conclusions

Pile suture can be sutured can be considered as less invasive and can be used over the broad spectrum of patients with second and uncompliated third degree piles, It does (not expose) the sphincters ; nor does it involve the (stripping or excision of the mucous membrane) which explains marked reduction in the incidence of post-operative pain; urine; retention; bleeding ;and the prevention of anal stenosis. For the same reasons; as other associated lesions such as anal fissure or fistula can be dealt with at the same time; carrying great advantage to the patient since it saves him from further surgery.

## Recommendation

We have adopted the (pile suture) technique as the treatment of choice in management of haemorrhoidal disease in our study.

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