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Original Research Article

# Observational Study of Post-Op Complications and Hospital Stay of Transanal Suture Rectopexy for Hemorrhoids with Conventional Miligan Morgan Open Hemorrhoidectomy

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**Abstract:**

To compare the transanal suture rectopexy (TR) with conventional Milligan-Morgan hemorrhoidectomy (MH) in patients of grade II, III and IV hemorrhoids.

**Methods:** From March 2018 to October 2019, 60 patients of hemorrhoids from grade II to IV were randomly selected to undergo either the transanal suture rectopexy (n= 30) or the Milligan-Morgan hemorrhoidectomy (n=30). Results were analyzed during postoperative period and at 1 month. Operative time, post-operative complications, resolution of symptoms and recurrence were taken as variables. Data was analyzed by Open EPI version 2.3.

**Results:** Both the groups were comparable in terms of demographic data. Bleeding per rectum was the major symptom. TR group had more operative time and less intra-op blood loss, post-operative bleeding, pain, anal incontinence, hospital stay and recurrence than MH group. Data was statistically significant (p-value<0.05). In MH group, 16 patients developed postoperative bleeding while this was only 2 in TR group. In MH group 2 patients developed anal incontinence while there were none in TR group. In MH group 6 patients came with prolapse and 7 patients came with bleeding per rectum at 1 month follow up, while count was only 1 in TR group.

**Conclusion:** Transanal suture rectopexy is unique and simple stitching technique appropriate for treating all the grades of hemorrhoids. It offers cheaper, ambulatory and effective alternative to costly newer modalities for the treatment of hemorrhoids. It is better accepted by the patients. More studies are needed to declare it as a standard procedure for the cure of haemorrhoids.



## Introduction

Haemorrhoids, commonly called as piles are common ailments that present to a surgeon requiring hospital admissions. [1] It is difficult to find true prevalence of hemorrhoids. The main cause of haemorrhoids is considered to be constipation. [2] The internal haemorrhoids present as painless bright red rectal bleeding while defecating because it originate above the dentate line, which are viscerally innervated.

However, the external haemorrhoids originating below the dentate line, are somatically innervated and are painful with swelling in the area of the anus. [2]

Hemorrhoidectomy is a routinely performed operation in the anorectal region. It involves excising both (internal & external) components of each hemorrhoid. In traditional hemorrhoidectomy, postoperative pain, the risk of complications such as post-operative bleeding, anal incontinence, wound infection, and the length of recovery time are challenges in the management of patients with hemorrhoids. [3] Thus, there is need of better surgical technique in management of hemorrhoids. In this study we are comparing the outcome of a new technique of transanal suture rectopexy with the conventional open Milligan-Morgan hemorrhoidectomy. Only a few studies have been done on this new technique, so this study becomes important.

## Study Design and Methodology

This study was done at a tertiary level teaching hospital of the state of Maharashtra in India. It was a longitudinal study done between March 2018 and October 2019. All consenting patients admitted in the general surgery department with haemorrhoids (grade II, III and IV) were included in the study. 60

patients were enrolled in the study, which were divided in two groups of 30 each by random table number method, as Transanal suture rectopexy (TR) and Conventional Milligan-Morgan open haemorhoidectomy (MH) groups.

A complete detailed history, physical evaluation was done and the patients were informed about the details of the procedure and written informed consent was obtained. Diagnosis of haemorrhoids was done by per-rectal examination and proctoscopy. Haemorrhoids were graded as per Goligher classification. Inclusion criteria were grade II, III and IV haemorrhoids. Exclusion criteria included patients with previous anorectal surgery, anal fissure or fistula, acute thrombosed external hemorrhoids, anal stenosis, anal incontinence, rectal prolapse, malignancy, inflammatory bowel diseases, irritable bowel syndrome, previous pelvic radiotherapy.

**Operational Definitions:** In transanal suture rectopexy, under spinal anaesthesia, in lithotomy position, anal canal is lubricated with lignocaine 2% jelly. By using Sim's speculum, the piles masses pushed upwards and replaced at their original anatomical position.

Self-illuminating proctoscope with sliding valve and slit is introduced in the anal canal. Sliding valve is withdrawn and the dentate line is identified. 4 cm, first stitch is tied at 3'o clock position. Next stitches are double locked and 1-2 mm overlapping at the same level circumferentially. This prevents purse string effect. Each stitch is of submucosal depth and only a part of rectal muscle is taken. Stitches should not pass through and through the rectal wall. This results in fixation of mucosa, submucosa and protruding pile masses to rectal wall. The second suture line is applied circumferentially at 2 cm above the pectinate line. For suturing a 30 mm, 5/8 circle, 2-0 polyglactin round body suture is used. [4-5]

In conventional Milligan-Morgan haemo rhoidectomy, under spinal anaesthesia, in lithotomy position, anal canal is massaged with lignocaine 2% jelly and digital dilation is done. The internal haemorrhoids are pulled down by using babcock's forceps, this exposes the haemorrhoidal pedicles. After traction is applied on the haemorrhoid, transfixation and ligation of the pedicle is done by 2-0 vicryl, with the knot tied on the lumen side. By using cautery, the pedicle is cut, leaving sufficient cuff.

The other haemorrhoids are removed in a similar fashion leaving intact bridge of perianal skin and anal mucosa between each dissection side should be not less than one centimeter wide. This prevents post-operative anal stenosis. [6-7]

**Post-operative care:** Patients were managed in the surgery ward. Oral antibiotics and analgesics were given. The patients were discharged on the next day, if there were no complications.

All the post-operative complications were noted and the pain was assessed at 24 hours after operation by visual analogue score.

**Aims and Objectives:** To compare transanal suture rectopexy for haemorrhoids with the conventional Milligan-Morgan hemorrhoidectomy with respect to post-operative complications and hospital stay.

**Statistical Analysis and Results**

Data was collected from hospital records and case files of the patients. The data was entered in Excel sheets and was analyzed with the help of Open EPI version 2.3 through its statistical program, using mean and standard deviation for quantitative data like operative time, post-operative bleeding, and hospital stay. Unpaired t-test was used for quantitative data. Fisher exact test was used for qualitative data. P-valve of $\leq 0.05$ was considered statistically significant.In patients undergoing Milligan Morgan procedure (MH), mean age was 42.06 years±6.78 and while, it was 45.13 years±6.32 for patients undergoing transanal suture rectopexy (TR). There were 48 males and 12 females. Male: Female ratio was 4:1. In MH group, 25 were male and 5 were female and TR group, 23 were male and 7 were female. It was observed that in both the groups, there was male preponderance of cases. Out of total 60 patients, 12 were diagnosed to have grade II disease, 38 patients presented with grade III disease and remaining 10 belonged to grade IV disease. 53 out of 60 patients complained of bleeding per rectum, which the most common presenting complaint. 50 out 60 patients suffered from constipation. 48 out of 60 patients complained about prolapsed piles. Pain was complained by 37 out of 60 patients. All the patients were given spinal anaesthesia. There were 4 patients of grade II, 19 patients of grade III and 7 patients of grade IV haemorrhoids in MH group. In TR group, this count was 8, 19 and 3 for grade II, III and IV haemorrhoids respectively.

**Table 1: Analysis of Demography**

| Characteristics | Milligan-Morgan | Transanal Suture Rectopexy |
|---|---|---|
| Age In Years | 42.06 ± 6.78 | 45.13 ± 6.32 |
| Gender | M=25; F=5 | M=23; F=7 |
| Grade | Ii-4; Iii-19; Iv-7 | Ii-8; Iii-19; Iv-3 |

For measuring post-operative pain at 24 hours, visual analogue scale was used. Mean VAS score for MH and TR groups was 2.8 ± 1.49 and 1.1 ± 0.66 respectively.

Calculated p-value was 0.000003482 (significant). Thus it can be concluded that post-operative pain is significantly lower in TR group. The mean post-op hospital stay for patients operated with MH and TR groups was 5.16 ± 0.94 days and 1.5 ± 0.5 days respectively.

Calculated p-value was 0.001082 (significant). It can be concluded that the post-op hospital stay is significantly less in patients operated with Transanal suture rectopexy.

**Table 2: Analysis of Quantitative Data**

| Variables | Group | Mean | Standard Deviation | P-Value |
|---|---|---|---|---|
| **Post-Op Pain** | **Milligan Morgan** | **2.8** | **1.49** | **<0.05** |
| | **Transanal Suture Rectopexy** | **1.1** | **0.66** | |
| **Post-Op Hospital Stay** | **Milligan Morgan** | **5.16** | **0.94** | **<0.05** |
| | **Transanal Suture Rectopexy** | **1.5** | **0.5** | |

(Unpaired t-test; results obtained from Open Epi, Version 3)

In this study, 18 patients had bleeding in post-operative period, out of which 16 belonged to MH and only 2 belonged to TR group. Calculated p-value was 0.00007236 (significant). It was concluded that MH patients have higher post-op bleeding than TR patients. Post-op bleeding was managed conservatively by gauze packing and laxatives. 4 patients had developed prolapse of residual pile mass in post-operative period, out of which, 3 belonged to MH and only 1 belonged to TR group. Calculated p-value was 0.3060 (not significant). Only 2 patients, who belonged to MH group developed incontinence to stools. They were managed conservatively with sitz bath and laxatives.

None of the TR patients complained of incontinence to stools. Calculated P-value was 0.2678 (not significant).

**Table 3: Analysis of Qualitative Data**

| Variables | Group | Frequency | Percentage | P-Value |
|---|---|---|---|---|
| **Bleeding In Post-Op Period** | **Milligan Morgan** | **16** | **53.3** | **<0.05** |
| | **Transanal Suture Rectopexy** | **2** | **6.6** | |
| **Prolapse In Post-Op Period** | **Milligan Morgan** | **3** | **10** | **>0.05** |
| | **Transanal Suture Rectopexy** | **1** | **3.3** | |
| **Incontinence To Stools** | **Milligan Morgan** | **2** | **6.6** | **>0.05** |
| | **Transanal Suture Rectopexy** | **0** | **0** | |

(Fischer exact test; results obtained from Open Epi, Version 3)

## Discussion

Hemorrhoids or piles are one of the most ubiquitous conditions that afflict problem for general population but it is difficult to detect its exact prevalence in the population, owing to its social stigma. [8] The most common treatment modalities for haemorrhoids are conventional Milligan Morgan open hemorrhoidectomy and Ferguson's closed hemorrhoidectomy. Various other treatment modalities are present for hemorrhoids but high cost, post-op complications and recurrence of pre-operative symptoms are the limiting factors. [9] We require a surgical technique which is cheap, with minimal post-operative complications and negligible recurrence rate.

All the earlier surgeries for hemorrhoids aim at ligating the blood vessel supplying the prolapsed pile masses or excision of pile mass. The procedures which involve excision of important anatomical structures are associated with more complications, are painful and have delayed recovery and more hospitalization. At 3, 7 and 11'o clock, in lithotomy position, three anal cushions are present.

They are nothing but clusters of dilated veins of superior rectal venous plexuses. The symptoms of hemorrhoids are due to prolapse of this anal cushions.6 In this new modality for the treatment of all the grades of hemorrhoids, a simple suturing technique is applied to achieve the required results. [2] circumferential suture lines are taken in pain free area, 2 cm and 4 cm proximal to the dentate line. This explains the lower post-operative complications and hospital stay. It is cheaper than other procedures because no additional sophisticated instrument is required. [7] Transanal suture rectopexy proved to be significantly better than the Milligan Morgan open hemorrhoidectomy with respect to post-operative pain, post-op hospital stay, control of bleeding and prolapse per rectum in post-op period, and anal incontinence, if any before discharging the patient.

## Conclusion

Transanal suture rectopexy is new modality for treatment of haemorrhoids. It is a simple stitching technique whose learning curve is lesser than other new procedures. When it is applied to different grades of haemorrhoids, it shows similar results. This new modality is successful in controlling bleeding per rectum and prolapsed pile masses. Conventional techniques are associated with post-operative complications. Newer techniques are costly and require sophisticated instruments. This new treatment modality has negligible post-op pain, post-op bleeding, post-op residual prolapse and anal incontinence. Shorter post-op hospital stay of only 24 hours is additional advantage. This new procedure is an attractive option for both surgeon and patients. Use of Chivate's proctoscope makes this surgery easier for surgeons. The new method still requires more studies to determine long term outcomes and complications.

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