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General Surgery

# A CLINICAL ANALYSIS OF THE OUTCOME OF CHIVATE'S PROCEDURE AND MILLIGAN-MORGAN PROCEDURE FOR HAEMORRHOIDS

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| **Dr. G. Santhi Vardhani** | Associate Professor, Upgraded Dept Of General Surgery, Osmania General Hospital. |
| **Dr Asmat Jahan** | Postgraduate, Upgraded Dept Of General Surgery, Osmania General Hospital |
| **Dr Md Shadab Jaseem*** | Post-Graduate, Dept of Surgery, Osmania Medical College.*Corresponding Author |

**ABSTRACT** **AIM:** To study the outcome of the Chivate's transanal suture rectopexy with milligan morgan procedure in patients of haemorrhoids from clinical perspective. **METHODS:** From April 2018 to September 2019,30 patients of haemorrhoids(grade III/ IV) were randomly assigned to undergo either the transanal suture rectopexy (n= 15) or Milligan Morgan procedure (n=15). Outcome assessment was performed at 12 hours,24 hours,3days,weekly once for 1 month,monthly once for 5months. Variables included Post-operative complications, resolution of symptoms. **RESULTS:** Both the groups were comparable in terms of demographic data. Of the 15 patients who underwent Chivate's procedure, none of the patients complained of Pain. 1pt had minimal bleeding intra-operatively. 3 pts had urinary retention and another 2 pts had transient anal incontinence to flatus. Mild mucous discharge per rectum noted in 1 patient. All the patients were discharged in 24hrs. Of the 15 patients who underwent Milligan-Morgan procedure, 10 patients complained of severe pain in the post-operative periods. Bleeding was seen intra operatively in 3 pts and urinary retention seen in 1 pt. Mild mucus discharge per rectum was seen in the early post-operative period in 1 pt. Most of the patients stayed under admission for 3-4days. There was difficulty in passing stools postop in 3patients, thus, requiring increased use of laxatives in these patients. None of the patients had residual pile masses or recurrence in this study after long term follow up.**CONCLUSION:** Transanal suture rectopexy certainly offers lower incidence of post-op morbidities and better patient compliance than milligan morgan open hemorrhoidectomy.

**KEYWORDS :** Chivate`s Procedure, Transanal Suture Rectopexy,milligan Morgan Open Hemorrhoidectomy, Haemorrhoids.

## INTRODUCTION:

Haemorrhoids are a common proctological disease that affects the quality of life in the patient population to a great extent. They results from the increased pressure in haemorrhoidal plexus of vein, with degeneration of fibroelastic tissue in anal cushions acting as a contributing factor.

***Minimally invasive procedures are the new trend in surgery.*** There is a need to study the minimally invasive procedures employed in the management of haemorrhoids to decrease morbidity, disease burden and duration of hospital stay. This study has included two types of surgeries for the management of Haemorrhoids.

## 1.TRANSANAL SUTURE RECTOPEXY /HEMORRHOIDOPEXY:

In 2012 Dr Shanthikumar.D.Chivate presented the concept of transanal suture rectopexy , in which ligation of blood vessels was done at two sites, thus decreasing the chances of collateral formation as well as dealing with the problem of mass prolapse.It is considered as a minimally invasive, painless and a bloodless procedure without damaging the anal sphincter. This is used for managing all grades of haemorrhoids. Principle is Plication of vessels in the rectum above the dentate line at two different levels, causing blocking of blood supply, preventing neo vascularisation and anchoring of the mucosa & sub mucosa of the rectum to the muscle layer of rectum and Parks Ligament.

We present this study with the aim of evaluating this new procedure and comparing it with Miligan Morgan open hemorrhoidectomy with regard to resolution of symptoms, ease of surgery, post-operative complications, and long term recurrence

**PROCEDURE**: Patients were given P.C. Enema in the evening 12 hours and 6 hours before the operative procedure. After giving spinal anaesthesia, patients were positioned in lithotomy with a little head low, which reduced the prolapsing pile masses. The laxed mucosal and submucosal tissues were placed in their anatomical position. Anal canal was lubricated with xylocaine jelly.

***A self illuminated slit with sliding valve proctoscope , designed by D Chivate was used***. After removing the sliding plate, dentate line was identified. The lax mucosa and submucosa was sutured to rectal muscles in two circumferential suture lines, 2cm and 4 cm proximal to dentate line. First stitch was tied and the subsequent stitches which were 0.5-1 cm in length were double interlocked. The double interlocking avoided the purse string effect and thus the anal stenosis. Care was taken to not to take complete thickness of rectal wall in stitches.

Since both the suture lines were above the dentate line in the insensitive part of anal canal, their was no problem of post operative pain. 2-0 polyglactin with round body 30 mm ½ needle was used. Lax mucosa and submucosa was sutured in its original position and the blood supply to haemorrhoidal plexus was cut off at two places, thus decreasing the chances of collaterals formation which causes recurrence.

**FIG 1:Dr Chivate's proctoscope with fibreoptic light fountain.**

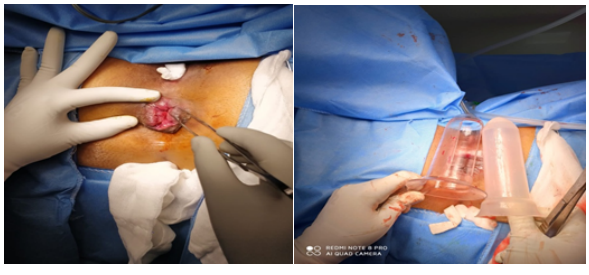


**FIG 2: CHIVATES PROCTOSCOPE USED FOR TREATING HEMORRHOIDS**

**MILLIGAN-MORGAN OPEN HAEMORRHOIDECTOMY:**

- A classical method of open dissection, ligature and excision of piles. Developed at St. Marks Hospital, UK – by E. T. C. Milligan and C. Naughton Morgan.
- It is best suited for interno-external, prolapsed, thrombosed and secondary hemorrhoids. It is also done in Haemorrhoids with associated conditions of the anus like fissure or fistula.
- Contraindications include bleeding diathesis, inflammatory bowel disease especially Crohn's disease and immunocompromised patients
- **PROCEDURE:** Patients were prepared in the similar manner as with Transanal rectopexy group by giving P.C Enema and were given spinal anesthesia. The skin component of the piles mass is held with artery forceps and retracted outwards. The anal mucosal component is grasped and drawn down and out. With a V-shaped incision at the anal mucocutaneous junction, dissection is carried out to free the cushions off the internal sphincter for 1.5- 2cms. The pedicle is transfixed and ligated with either absorbable or non-absorbable suture. The isolated haemorrhoid is then excised a few mm below the apical ligature, the transfixation suture being left long. Adequate bridge of skin and mucosa should be left in between.
- The final wound, "if it looks like a clover the trouble is over, if it looks like a dahlia, it is surely a failure." Conventionally a three "quadrant" hemorrhoidectomy is done but additional piles may be removed in a similar way.
- The anal canal is packed with gauze and dressings applied. Post operatively laxatives, non-constipating, non-narcotic analgesics and antibiotics are prescribed. The pack is removed after 24hours and Sitz bath prescribed.


**FIG 3:MILLIGAN MORGAN OPEN HEMORRHOIDECTOMY.**

**AIMS AND OBJECTIVES:**

The aim is to study the outcome of both Chivates procedure and Milligan-Morgan procedure in terms of post-operative events like Pain, Bleeding per rectum, Discharge per rectum, Anal Incontinence, Frequency of Stool, Tenesmus, Duration of Hospital Stay, Residual pile mass and Anal Stenosis. This study is to determine which procedure is better for an increased patient compliance and decreased post-operative morbidity.

**MATERIALS AND METHODS:**

This is a prospective study. It was carried out in the Upgraded department of General Surgery, Osmania Medical College between April 2018 and September 2019. 30 patients who attended the Out-patient department of General surgery and diagnosed with grade III or grade IV hemorrhoids based on history, clinical examination and proctoscopy were randomly chosen for this study. 15 patients were randomly given Chivate's procedure and the other 15 patients were given Milligan Morgan procedure as a treatment modality for haemorrhoids by different surgeons. Incidence of Post-operative complications and duration of hospital stay were studied. Follow up for a total period of 6 months after the surgical procedure was done every week for the first one month and then once a month for the next 5 months.

**INCLUSION CRITERIA**: Patients presenting to the Out Patient Department of Osmania General Hospital and diagnosed with grade III or IV Haemorrhoids were included. Patients between 21-52yrs age groups were included.

**EXCLUSION CRITERIA**: Patients with peri-anal abscesses or infection, IBD, bleeding disorders and immuno-compromised patients were not included. Patients with ulcerated Haemorrhoids, rectal prolapse, Anal fissures or Fistula-in-ano were not included.

**RESULTS:**

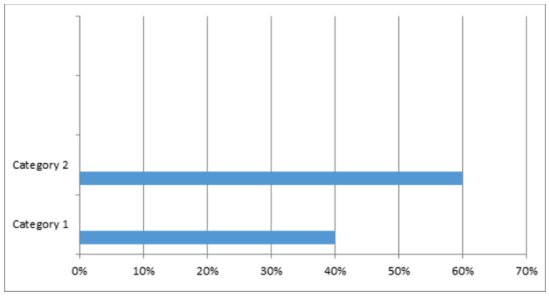
- Following Chivate's procedure – Of the 15 patients who underwent Chivate's procedure, none of the patients complained of Pain. There was incidence of minimal bleeding intra-operatively in 1 patient. 3 patients had urinary retention and another 2 patients had transient anal incontinence to flatus and liquid stools which got relieved within 12-18hrs postop. Mild mucus discharge per rectum noted in 1 patient. All the patients were discharged after 24 hours. None of the patients had Anal stenosis on Digital per rectal examination during follow-up.

- Following Milligan-Morgan procedure – Of all the 15 patients who underwent Milligan-Morgan Open Hemorrhoidectomy, 10 patients complained of pain in the early post-operative periods, which were managed by Pain-killers. Bleeding was seen intra-operatively in 3 patients and was controlled by transfixation sutures and coagulation cautery. Mild discharge per rectum was seen in the early post-operative period in 1 patient which was treated with Oral antibiotics and Sitz baths thrice a day.3patients had difficulty in passing stools postop which required increased use of laxatives in these patients.1 patient had urinary retention probably as a complication of spinal anesthesia. Most of the patients stayed under admission for 3 to 4 days after surgery.

- None of the patients had Anal stenosis or Residual pile masses or Recurrence noted during the follow-up as evidenced by Digital per rectal examination in both the groups.

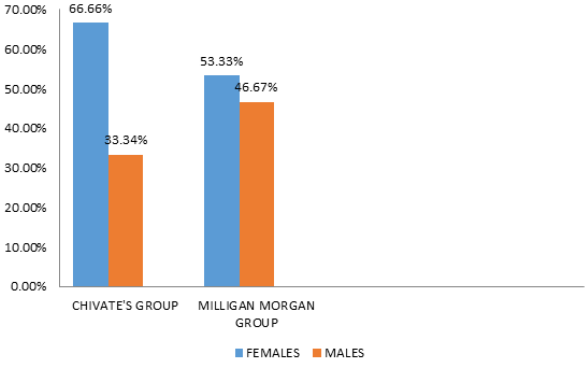
**ANALYSIS:**

In this study,out of 30 patients-18 pts were females(60%) and 12 pts were males(40%).The mean age of patients was 35.5 years ( Range 23 - 48 years in Chivate's procedure group while it was 36.5 years ( Range 21 – 52 ) years in Milligan Morgan procedure group.



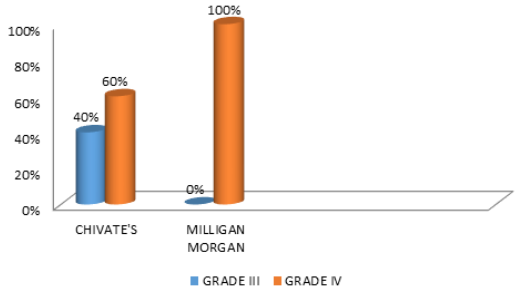

**GRAPH 1:Category1-MALES : 40% , Category2-FEMALES :60%**

There were 10 females ( 66.66% ) in Chivate's procedure group while in Milligan Morgan procedure group the count of female was 8 ( 53.33% ).



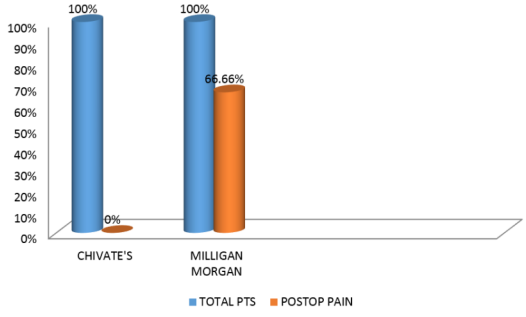

**GRAPH 2:Incidence by genders**

Among the patients who underwent Chivate's procedure, 06 patients (40%) had grade III and 09 patients (60%) had grade IV haemorrhoids, Milligan-Morgan procedure 15 patients (100%) had grade IV haemorrhoids.



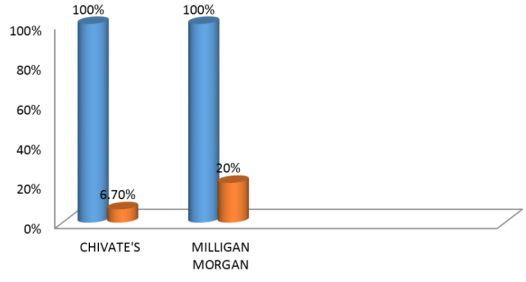

**GRAPH 3:INCIDENCE BY GRADES OF HEMORRHOIDS**

Out of 15 patients who underwent Chivate's procedure, **NONE** (0%) of them complained of pain in the immediate, early or late post-op period. Out of 15 patients who underwent Milligan-Morgan procedure, **10 patients (66.66%)** complained of pain in the early post-op and were managed by pain medication. Pain was assessed based on VAS score at 12hrs,24hrs postop for both the groups.



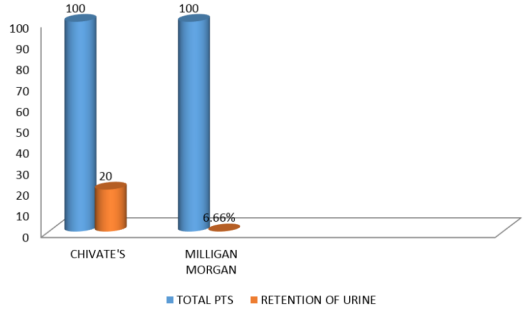

**GRAPH 4:INCIDENCE OF POST OP PAIN**

Out of 15 patients who underwent Chivate's procedure, **01 patient (6.7%)** had intra-op bleeding who was successfully controlled by placing a suture proximally. Out of 15 patients who underwent Milligan-Morgan procedure, **03 patients (20%)** had bleeding intra-op, which as controlled by applying pressure, transfixation or figure of 8 sutures. None of the patients in either procedures complained of recurrent bleeding during follow-up.




**GRAPH 5: INCIDENCE OF INTRAOP BLEEDING PER RECTUM**

Out of 15 patients who underwent Chivate's procedure, **03 patients**(20%) complained of retention of urine in the post-op period. Out of 15 patients who underwent Milligan-Morgan, **01 patients (6.66%)** complained of retention of urine.

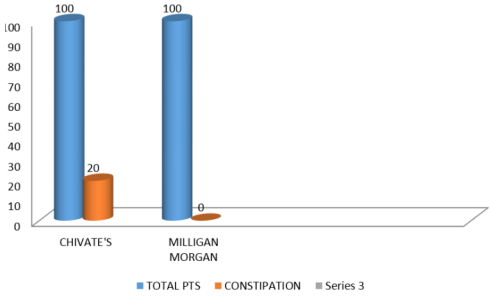



**GRAPH 6: INCIDENCE OF POSTOP RETENTION OF URINE**

Out of 15 patients who underwent Chivate's procedure, **1patient(6.66%)** complained of discharge per rectum in the post-op period. Out of 15 patients who underwent Milligan-Morgan procedure, **01 patient (6.66%)** complained of discharge per rectum and was managed with sitz baths in addition to antibiotics.

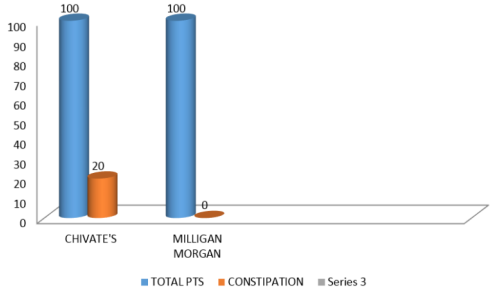
Out of 15 patients who underwent Chivate's procedure, **04 patients (26.7%)** had external skin tags (sentinel piles) and thrombosed external hemorrhoids which were addressed by sharp cut in the same sitting itself. None of the pts in both the groups had residual pile masses post operatively.

**3 patients(20%)** complained of constipation in the early or late post-operative periods following Chivate's procedure who required more doses of laxatives for longer period compared to other patients. **NONE** of the patients had constipation following Milligan Morgan procedure.



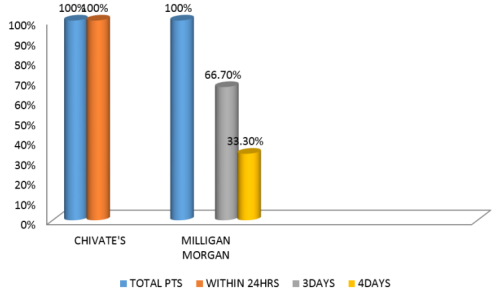

**GRAPH 7:INCIDENCE OF POSTOP CONSTIPATION**

**2 patients(13.33%)** who underwent Chivate's surgery for hemorrhoids in this study complained of transient anal incontinence to flatus and liquid stools during the early follow up period. NONE of the pts following Milligan Morgan procedure had anal incontinence.




**GRAPH 8:INCIDENCE OF TRANSIENT ANAL INCONTINENCE**

Out of 15 patients who underwent Chivate's procedure, **15 patients (100%)** were discharged after 01 day of procedure. Out of 15 patients who underwent Milligan-Morgan procedure, **10 patients (66.7%)** were discharged after 3 days and **05 patients (33.3%)** were discharged after 4 days of procedure.




**GRAPH 9: INCIDENCE OF DURATION OF HOSPITAL STAY**

**None of the patients had ischemia/gangrene of anal mucosa,tenesmus,fecal impaction,anal stricture/stenosis,pruritis or recurrence in this study**

**DISCUSSION:**

The search for a perfect solution to the problem of haemorrhoids is a global effort. Though all the present surgical techniques provide resolution in symptoms to a satisfactory level,but post-op complications and recurrence remains a constant problem.

In this randomized control trial of 30 patients, we evaluated the newly introduced technique of transanal suture rectopexy with the Milligan Morgan open hemorrhoidectomy. Both the procedures were comparable with respect to mean operating time, post-op discomfort,

urinary retention, post-op bleeding and resolution of symptoms.

But the transanal suture rectopexy proved to be significantly better in terms of post-op perianal pain and duration of hospitalization.

Milligan-Morgan procedure aimed at cutting the blood supply to the fragile prolapsed part of the pile mass or their removal. It has low recurrence but more pain. This problem is addressed by use of Chivate`s self illuminated slit with sliding valve proctoscope. The illumination with sliding valve mechanism provides a better view, thus avoiding the dentate line and also better suturing. Since there is no resection and auto suturing of mucosa involved, the rate of post-op bleeding is less.

Transanal suture rectopexy demands circumferential double interlocking of the submucosa and mucosa of the anal canal at the level of 2 cm and 4 cm above the dentate line. This results in the ligation of haemorrhoidal vessels and fixation of lax mucosa at two places thus preventing the long time recurrences due to collateral formations. This explains the low recurrence rate in our study.

## CONCLUSION:

We have come to the conclusion through this study of the outcome and assessment of the incidence of events, **Chivate's procedure of Transanal Suture Rectopexy for haemorrhoids is a far better procedure than Milligan-Morgan procedure** in terms of better patient acceptance and compliance by decreasing the post-operative morbidity like Pain, Bleeding per rectum, Discharge per rectum and duration of hospital stay.

**Use of Chivate`s anoscope makes it an easy procedure** with minimal learning curve. The less post-operative pain, less cost makes it an attractive option for both the patients and surgeons.

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