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Original Research Paper

General Surgery

A CLINICOANALYTICAL STUDY ON EFFICACY, SURGICAL OUTCOME OF SUTURE HEMORRHOIDOPEXY (CHIVATE'S PROCEDURE) IN HEMORRHOIDAL DISEASE IN A TERTIARY CARE HOSPITAL

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ABSTRACT

Hemorrhoids are common human afflictions known since the dawn of history. Hemorrhoids can occur at any age, and they affect both men and women. About half of the population has hemorrhoids by the age of 50 years. Many procedures with ligation of hemorrhoids at one point have been described. The main etiological factor of development of recurrence of the hemorrhoids is development of the collaterals in all the present procedures in which ligation of vessels is done at one site. To overcome these problems, a new surgical method was devised by Dr. Shanti Kumar D. Chivate. This procedure consists of trans anal circumferential suturing of lax mucosa and submucosa of rectum with pile masses to the deeper muscles of rectal wall. The suturing is done well above the dentate line to ensure painless post operative period and in two suture lines to avoid formation of collaterals, thus minimizing the recurrence. The present study evaluates the clinical outcome of Trans anal suture rectopexy about postoperative morbidity, analgesic requirement, and recurrence.

KEYWORDS : Hemorroids, Recurrence, Chivate Procedure.

MATERIALS AND METHODS

This is a prospective clinico-analytical study which was done at Osmania general hospital, Hyderabad with a sample size of 50 for a period of 18 months from August 2021 to January 2022

Inclusion Criteria

1) Age group 25-60 years.
2) Both sexes.
3) Patients presenting with internal, external, externo - internal haemorrhoids.
4) Prolapsed haemorrhoids including mucosal prolapse.
5) Haemorrhoids with fissure.

Exclusion Criteria

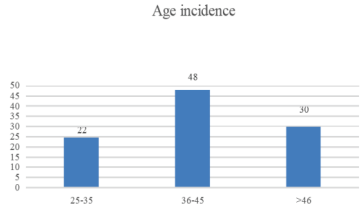
1) Patients aged below 25 years.
2) Patients aged above 60 years.
3) Pregnant females.
4) First-degree haemorrhoids.
5) Patience with bleeding disorders like CLD, anal varices, thrombosis piles Etc.
6) Fistula-in-ano.
7) Perianal abscess.
8) Rectal prolapse.

Informed and written consent obtained from all the 50 patients admitted during the study period in their own language and are included in the study. The admitted patients were worked up for the surgery and operated by chivate's procedure and were followed up until the patients are discharged and after 6 months. Outcome variables were established such as pre-operative complaints, intraoperative complications, post-operative complications, post operative hospital stay and pain management.

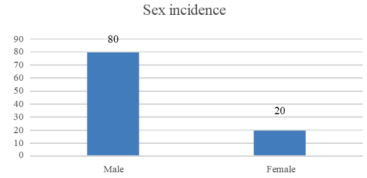
Data was collected and statistical analysis was done and the following observations and results were established.

OBSERVATIONS AND RESULTS

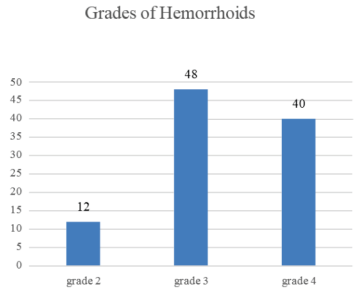
1) Age Incidence: The highest distribution of hemorrhoids was in age group 36-45 year (48%) followed by age group >46 year (30%), 25-35 year (22%)



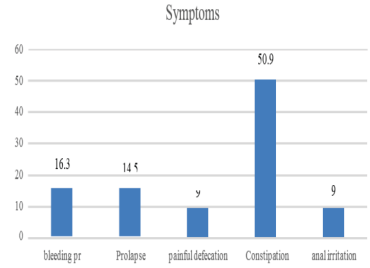
2) Sex Incidence: Hemorrhoids were more common in males (80%) as compared to female (20%).



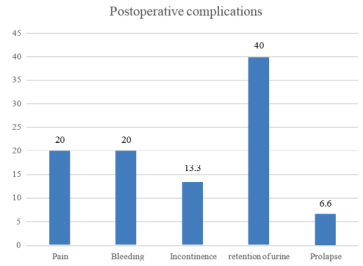
3) Grade Of Hemorrhoids: Most of the patients had 3rd degree hemorrhoids followed by 4th degree and 2nd degree. 48% patients had 3rd degree hemorrhoids, 40% patients had 4th degree hemorrhoids and 12% patients had 2nd degree hemorrhoids.



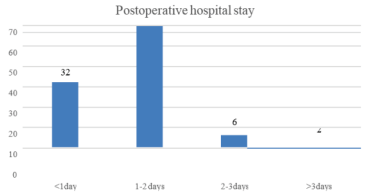
4) Pre-operative Symptoms: Most of the patients admitted with complain of constipation (50.9%) followed by bleeding per rectum (16.3%), prolapse (14.5%), painful defecation (9%) and anal irritation (9%).



5) Mean Duration Of Operation: The mean duration of surgery was 25.28 minutes with a standard deviation of 2.55 minutes.
6) Post Operative Complications: Most common postoperative complication was retention of urine (40%) followed by bleeding (20%), pain (20%), incontinence (13.3%) and prolapse (3.3%).



7) Post Operative Hospital Stay : 60% patients stayed in hospital for 1-2 days after operation, 32% stayed for <1 day, 6% stayed for 2-3 days and 1% for more than 3 days.



8) Post Operative Pain Management: Severe pain occurred in 4 out of 50 patients and were controlled by higher analgesics for mean duration of 4 days. Rest of the patients were controlled by routine analgesia for mean duration of 1.5 days.

RESULTS

Fifty patients of hemorrhoids who presented to the surgical OPD are admitted at OGH, formed the study group in this series

- The commonest age group affected was 36-45 years(24 cases) and the least affected were 25-35years(11case).
- The incidence in males was greater than females (4:1).
- Most common cases were among Grade III hemorrhoids (24 cases), Grade IV(20 cases), Grade II(6 cases).
- Constipation was the most common presenting symptom (28 cases), bleeding (9 cases), prolapse (8 cases) and painful defecation (5 cases) and anal irritation (5 cases).
- Mean duration of operation was 25.28 minutes.
- Urinary retention was the most common complication (6 cases) followed by pain (3 cases) , bleeding(3 cases), incontinence(2 cases) and prolapse (1 case).
- Pain was controlled by routine analgesics in majority of patients (92%).
- Most of the cases were discharged within 2 days (30 cases).

DISCUSSION

Strength and Weakness of The Study

Strengths: The major strength of the study is that all patients were admitted and cared for in the same institution during the study period. Furthermore the data for all patientswas collected from time of recruitment in surgery department to six months after the surgery. The data for all patients were pooled from a single database, with handwritten record for every patient.

Weakness: We acknowledge the small sample size as being a weakness of the present study, but this was due to it being a prospective study for the latest Chivates procedure carried out in one unit of a tertiary care teaching hospital over a period of 18 months, with multiple exclusion criteria.

Principle outcome of the study in comparison with similar and contrast studies: In the new procedures, simple suturing was done at 2 and 4 cm levels proximal to the dentate line. The sutures were above the dentate line which concluded in pain free postoperative as well as later on.

Milligan and Morgan procedure was presented as an excision of hemorrhoids and ligation of its pedicle in 1937. The method is very painful requiring 3-5 days of hospitalization and sedations. The patients avoid not only surgery but also the surgeons. Stapled haemorrhoidopexy, developed by Longo in the 1990s, reduces prolapse by a circular stapled mucosectomy 4 cm above the dentate line. The procedure is confined to the area above the dentate line, should give no pain. But the reoperation rate after stapled hemorrhoidopexy was 11% and the most frequent indications for reintervention were persistent, severe anal pain (visual analogue pain score higher than 7)

In 1995, Morinaga reported a new technique for treatment of hemorrhoids by HAL (hemorrhoidal artery ligation). It was used for identification of hemorrhoidal arteries. In this procedure, the located arteries are ligated by figure of eightsutures, 4 cm above the dentate line, which is a pain-free area. The procedures recto-ano repair for grade III and IV hemorrhoids is involved in plication of anal mucosa, cannot be pain free. In the past and now, conventional open hemorrhoidectomy is safer than stapled haemorrhoidopexy. Incidences such as sever sepsis, perforation of the rectum, retroperitoneal abscess, severe bleeding are rarely reported complications, required anterior rectal resection and colostomy which give injury to safety feeling of surgeons about the procedure. The procedures DGHL (Doppler Guided Hemorrhoidal Artery Ligation) and trans anal suture rectopexy for hemorrhoids are technically safe and they are less likely to complicate.

In the last 3 years suture rectopexy has been used in 166 cases, no untoward incidences have occurred and it is totally safe. The suture haemorrhoidopexy had minor oozing from some stitches in 11% of cases, which was controlled by compression. The mucosal tear was noted in the early 3% cases, but required no treatment. Surgical complications consisted hemorrhages of the staple line (18.8%) and hemorrhages due to mucous tear (5.9%), in staple haemorrhoidopexy. The hemorrhage during operation is not comparable with the conventional hemorrhoidectomy.

The principle of open hemorrhoidectomy is to minimize the loss of skin and the perianal mucosa of the anal canal that bridges between the excised two hemorrhoids to prevent stricture. The pedicel ligation of hemorrhoids is done to occlude blood supply at the top of anal cushions. Later on, the smaller branches of the ligated vessels start dilating and developing collaterals to join the blood vessels of the intermediating tissue; this is the potential cause of recurrence that remains about 18–25%.In stapler haemorrhoidopexy, only mucosectomy and auto suturing is done, the blood vessels are not ligated; it gives a similar situation in which piles masses had develop before. The fibrous tissue in submucosa remains defective and lax tissue remains unfixed. The overall incidence of recurrent hemorrhoidal symptoms as early as fewer than 6 months, remain in stapled versus conventional procedure: 24.8 versus 31.7%; or as late as 1 year or more recurrence rate of stapled versus conventional procedure: 25.3 versus 18.7%.

Doppler-guided HAL procedure has a recurrence rate of 12% in 12.5- month follow-up in non-prolapsing hemorrhoids. In III- and IV-degree hemorrhoids, the recurrent rate was reported between 12% and 40% during the first year. In follow-up of 3 years, Chivate's rectopexy reported 3 cases of piles cushions bulging into anal canal without bleeding. In the suture rectopexy, mucosa is transfixed to the muscular layers of the rectum, which prevents prolapse of the piles cushion. The superior rectal artery and its branches at the level of the plexus are numerous, which enhances the development of the collaterals in a short period. There is free arteriovenous communication through capillary circulation in the corpora cavernosa recti, which is the probable cause for recurrence in stapler or DGHL procedure.

If a long segment of an artery is occluded, it is important that side branches arising in the area are not available for the joining of collateral circulation. In Chivate's procedure, the vessels are blocked at two sites at the distance of 2 cm, which reduces the chances of development of the collaterals and recurrences. The blood supply from seromuscular layer is unabated, which avoids the necrosis of the area of the less vessel area. In the last 6 months of follow-up, not a single case of partial or completenecrotic patch was revealed. A remarkable incidence of failures after stapled anopexy has been recently reported by several papers, with an incomplete resection of the prolapsed tissue, due to the limited volume of the stapler casing as the possible cause.

In Minimal Invasive Procedure for Hemorrhoids (MIPH), in few months of operation 1–2% recurrence of symptoms, such as bleeding, were noted, and 5 years later, recurrence accounted 20–30%. Certainly it is true that there is no pain, but no gain too. In MIPH, the functional impairment is a result of multiple factors such as excision of the sensitive lower 2–4 cm of the rectal mucosa, which tests samples from the rectal content for flatus, faeces or fluid. The capacity of the rectum is reduced as it is divided in two parts like an hourglass clock. These factors cause incontinence, tenesmus, and increased frequency of stools.

In the conventional hemorrhoidectomy, piles cushions are removed resulting in impairment of continence. In the mega series, faecal soiling/leakage 31%, and faecal urgency 40% were observed in stapled haemorrhoidopexy. In suture rectopexy, no mucosa is excised. No change in bowel habit or any incontinence was reported. Same is true for DGHL. Shanti Kumar D. Chivate et al conducted a study in that series included 102 males and 64 females, the average age was 47.5 years; ranged between 22 and 76 years. The hemorrhoids grading II—54, grade III—88 and grade IV—24 was included in the series of 166 cases. In all the cases, frequent episodes of bleeding per rectum were noted. In grade II—24, grade III—38 and grade IV—19 cases, itching around the anus was present. Grade II—16, grade III—20 and grade IV—16 cases were suffering from discharge per rectum and spoiling underwear. Sigmoidoscopy revealed no malignancy in any case.

CONCLUSION

Following the prospective type of observational study of 50 cases of hemorrhoids in the present study the following conclusions can be made.

- Hemorrhoids is a common perianal disease in Indian population.
- Males in the productive age group of 36 - 45 years are predominantly affected.
- Most of the patient had grade third hemorrhoids. This may be due to late seeking of treatment, till it becomes alarming to the patient.
- Most common symptom of hemorrhoids was constipation which is more a cause than the symptom, followed by bleeding per rectum, prolapse of hemorrhoids and anal irritation .
- Majority of the patient required spinal anesthesia for surgery.
- Mean duration of surgery was twenty five minutes which was acceptable, when considering the new procedure.
- Post operative complications were very less. The most common post operative complication was retention of urine, which could be attributed to spinal anesthesia than the surgery. Only a small number of patient complained of pain, which was easily controlled by routine analgesic.
- Most of the patients were discharged in a day or two.
- Post operative follow up for six months was uneventful for majority of the patients. A very small no of patients complained of recurrence of symptoms.

Chivate's trans anal suture rectopexy for hemorrhoid is a cheap, painless, very simple stitching procedure and the learning curve is minimal with very lesspost-operative complications. It has equal successful outcome in all grades of hemorrhoids and similar results were achieved. It is relatively safe and better in terms of post-operative complications than other techniques.

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