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STUDY ON EFFICACY OF PLICATION OF HAEMORRHOIDS

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Abstract
Haemorrhoid's and piles are used interchangeably very often but originally the words have entirely different meanings, the term haemorrhoid is derived from Greek word - haemorrhoid which means bleeding which is the prominent symptom in majority of cases. Hippocrates had applied this name to the flow of blood from the venous plexuses of anus. Term piles derived from Latin word pila – a ball, can be optly used for all forms of haemorrhoids because it literally mean every such condition that produce swelling of some kind even if it may not be present externally.
Keywords: Haemorrhoid.

Introduction

Haemorrhoid's is one of the most common conditions seen in surgery clinics. It usually presents as fresh bleeding with or without prolapsing anal tissue per rectum generally associated with constipation.
Haemorrhoid's are cushions of sub mucosal tissue containing venules, arterioles, and smooth muscle fibres present in the anal canal. Three haemorrhoidal cushions are found in the left lateral, right anterior, and right posterior positions. [1]

Although haemorrhoidal disease is not fatal, it creates physical and psychological discomfort due to its nagging symptoms and significantly influences the quality of life (QOL) of the diseased person. In addition, frequent recurrence, incomplete elimination of discomfort even after haemorrhoidectomy and postoperative discomfort including pain, made haemorrhoids the biggest problem all over the world that hinders patient's ability to live normally and work efficiently. [2]

At least 50% of the people over the age of fifty have some degree of haemorrhoid formation.[3] According to Ferguson "Hundred percent of the population does suffer from haemorrhoids at least once in their lifetime".[4]

Haemorrhoids are thought to function as part of the continence mechanism and aid in complete closure of the anal canal at rest. The prevalence of haemorrhoids when patients are assessed proctoscopically far outweighs the prevalence of symptoms and the term should only be used when patients have symptoms referable to them. [5]

Because haemorrhoids are a normal part of anorectal anatomy, treatment is only indicated if they become symptomatic.[1]

Haemorrhoids are one of the common disease that affect mankind. Torell stated that seventy percent of population suffering from haemorrhoids and forty percent needed surgical intervention. Incidence of haemorrhoids increases as age advance. Men seem to be affected two to three times more frequently than women.[6]

Numerous factors that contribute to haemorrhoid disease are such as constipation with prolonged straining, pregnancy, aging, hereditary, portal hypertension, abdominal tumor, bad defecation habits.[7,8,9]

The erect posture of humans is also a predisposing factor. Despite several studies the pathogenesis of haemorrhoids still remains unclear.[10]

Based on its anatomical position, severity of disease and symptoms, various classifications of haemorrhoids have been described. Based on anatomical position, there are three main piles (right anterior, right posterior and left lateral position). Additional piles between these are termed as secondary piles.

Another classification as- Piles above the dentate line called internal piles and below the dentate line called as external piles.

There is four degree of haemorrhoid formation-

1. First degree – only bleed without prolapsed.
2. Second degree – prolapse on straining but reduce spontaneously.
3. Third degree – prolapses on straining but have to be replaced manually.
4. Fourth degree – which do not reduce even on manual reduction.

Based on grading, severity of symptoms, skill and expertisation of surgeon, instrument availability, affordability of patient, various treatment modalities have been proposed.

First degree piles can be treated by conservative approach (i.e. dietary modifications, sitz bath, medicines), sclerotherapy, photocoagulation.

Second degree may be managed through sclerotherapy, plication, rubber band ligation.[11,12] Surgical treatment of haemorrhoids has been suggested for symptomatic grade 2 , grade 3rd and grade 4th haemorrhoidal disease.

Haemorrhoidectomy is usually associated with significant postoperative complications. Due to excision of anoderm below dentate line and perianal skin, severe pain may occur after surgery. Eminent nursing care is required postoperatively, with recovery in at least 1 month. Other complications include heavy bleeding, infection and anal stenosis.

Plication of piles can be performed in symptomatic 2nd, 3rd and 4th degree haemorrhoids, this procedure takes very short time without the need of any costly instruments and can be done on elderly patients, so the expenditure by the patient is very less and is a suitable technique for developing and under developed countries.

Material and Methods

Patients referred to the department of Surgery MGH (OPD, IPD) between JAN 2018 to JUNE 2019 will be included in the study.

Inclusion Criteria

Patients with all age groups & either sex with

- Symptomatic Haemorrhoids (2nd to 4th grade) and
- Any associated anorectal pathology such as fissure
- Prolapsed piles
- Thrombosed piles

Exclusion Criteria:

Patients with

- Piles secondary to anorectal tumor.
- Grade 1 haemorrhoids
- Asymptomatic haemorrhoids Grade 2

Preoperative Preparation :

- Laxative (Bisacodyl 2 tablet) at night before operation.
- Sodium picosulphate enema to be given early morning on the day of surgery to ensure a clear visualization of anal canal.
- Tetanus prophylaxis as a routine.

Operative Techniques

With the patient in lithotomy position after appropriate anaesthesia anal stretching , tissue forceps are applied to the skin tags corresponding to the three major piles and retracted to visualise haemorrhoids. A long artery forceps is then applied to the pile mass above the level of pectinate line.

Then the held pile mass is transfixed and ligated with Catgut No.1 Round Body Needle suture at the proximal end of the internal haemorrhoids in order to occlude the superior haemorrhoidal vessel as they enter the internal haemorrhoids. Similar procedure is done to other two pile masses.

If there is any small secondary pile then the same procedure will be done. A small piece of gauge soaked with 2% Lignocaine jelly and Betadine will be left in anus as dressing. All the patients will be followed up for six months after the procedure.

Results

Age Incidence

Most of the patients were between 41 - 60 years of age (46%). Youngest age in the series was 20 years old and the oldest was 90 years.

TABLE 1:

AGE	No.	Percentage (%)
0-20	4	3.4
21-40	44	36.7
41-60	55	45.8
61-80	16	13.3
81-100	1	0.8
Total	120	100

Sex Incidence

Males were predominantly affected as compared to females.

TABLE 2:

Gender	No.	Percentage (%)
Male	90	75
Female	30	25
Total	120	100

Presenting Symptoms

All the patients in this study had bleeding per rectum that was mild to moderate in severity, bright red in colour and appeared in drops or as stream after the act of defecation or during defecation. Mass coming per rectum was the second most common symptom followed by constipation.

TABLE 3

Symptoms	No.	Percentage
Bleeding P/R	120	100
Mass Coming P/R	112	93.3
Constipation	95	79.2
Painful Defecation	12	10
Discharge	6	5
Cough	10	8.3

Duration of Symptoms

54% of the patient had symptoms of duration of 6 months to 3 years. Longest duration of symptoms in this series was 7 years while shortest duration was 15 days.

TABLE 4

Duration of symptoms	No. of patients	Percentage
< 1 Month	8	6.7
1-6 months	20	16.7
6 months - 1 year	29	24.2
1-3 years	36	30
3-6 years	22	18.3
> 6 years	5	4.2

Previous Treatments Taken

91.8% patients received some form of conservative treatment in the form of ointments and laxatives and felt partially relieved. These were the patients having symptoms of longer duration due to intermittent relief they got from conservative treatment.

TABLE 5

Previous treatment	No. of patients	Percentage
Ointments	50	41.7
Ointment + Laxative	34	28.3
Laxative	25	20.8
None	11	9.2
Total	120	100

Family History

In 20 patients, one or more relatives in their family had suffered from haemorrhoids.

TABLE 6

Family History	No. of patients	Percentage
Positive	20	16.7
Negative	100	83.3
Total	120	100

Number Of Primary Haemorrhoids

Out of 120 patients, about 80% had all the three primary piles while in 14.2% patients two piles were present.

TABLE 7

Number of primary haemorrhoids	No. of patients	Percentage
Three	96	80
Two	17	14.2
One	7	5.8
Total	120	100

Position Of Haemorrhoids

Most common position of pile is11 o'clock followed by 3 o'clock.

TABLE 8

Position of haemorrhoids	No. of patients	Percentage
3'O Clock	112	93.3
7'O Clock	101	84.2
11'O Clock	116	96.7
Secondary	14	11.7

Degree of Haemorrhoids

Out of 120 patients, 80% had 3rd degree piles, 13.4% had 2nd degree piles and rest had 4th degree piles.

TABLE 9

Degree of Haemorrhoids	No. of patients	Percentage
IIb Degree	16	13.4
III Degree	97	80.8
IV Degree	7	5.8
Total	120	100

Additional Findings

10% patients had fissure and 5.8% patients had fistula as an additional findings at anorectal junction.

TABLE 10

Additional Findings	No. of patients	Percentage
Fistula	7	5.8
Fissure	12	10
None	101	84.2

Procedure Done

In this study, 90.8% patients underwent plication and 9.2% pateints underwent an additional procedure along with plication.

TABLE 11

Name Of Procedure	No.	Percentage
Plicaton	109	90.8
Plication With Lscis	6	5
Plication With Fistulectomy	5	4.2
Total	120	100

Post-Operative Complications

In this study of plication of piles 86.7% of cases had no pain. 3.3% of cases who had pain were also suffering from fissure and fistula. These patients had pain during defecation which also continued afterwards requiring analgesics. The pain resolved in 10% of patients with analgesic after a week.

TABLE 12

Postoperative Complications	No. of patients	Percentage
Slight discomfort	13	10.8
Pain	16	13.3
Insignificant bleeding PR	5	4.2
Discharge	3	2.5
Retention of urine	1	0.8
Prolapse	0	0
Constipation	0	0
None	81	67.5

Long Term Results

The results of plication of piles are satisfactory. 1.7% of the patients had pain for which 1 patient had to be operated for fissure and in other one analgesics had to be continued for long term. 2.5% of the patients developed bleeding and prolapse again in which 1.7% patients underwent the procedure again and rest managed conservatively. 1.6% of patients developed constipation and re bleeding and were managed conservatively.

TABLE 13

Long term follow up complicatons	No. of patients	Percentage
Constipation	1	0.8
Haemorrhoids	3	2.5
Pain	2	1.7
Rebleeding	1	0.8
None	113	94.2

Regular proctoscopy revealed that immediately after plication, the piles masses became bigger and deeper in colour and look congested upto the 7th day after which there was shrinkage. At about the end of 8th week, when all the sutures were absorbed the plicated piles masses look segmented and shrinked. At 12th to 15th week we found that the shrinked piles masses were gradually replaced by fibrous bands.

Discussion

During our study on plication of hemorrohoids , consisting of 120 patients who were being treated during January 2018 to June 2019, have been evaluated on personal examination and questionnaire.

In the present series more than 80% of the patients were between 20-60 years of age and none below 20 years.

Patients above 80 years of age were only 0.8%. Similar age incidence had been observed by Awojobi et al, Dowidar et al, Ezzeldeen et al.[12,13,14]

Haemorrhoids are more common in males in our study which was similar to the results obtained by Vyas et al, Dowidar et al, Ezzeldeen et al. [15,13,14]

All the patients who were included in the present study complained mainly of bleeding per rectum. Similar high incidence of complaint of bleeding had also been observed by other workers Awojobi et al (100%) , Patnaik et al (80%), Dowidar et al (78%) and Ezzeldeen et al (50%). [12,16,13,14]

In our study 50% of the patient had symptoms of duration of 6 months to 2 years , however Agrawal S. et al reported the 54% patients with symptoms presenting less than 6 months.

Agrawal S. et al reported 60% patients received some form of conservative treatment.[17] However, in our study 91.8% patients received some form of conservative treatment in the form of ointments and laxatives and felt partially relieved leading to longer duration of symptoms due to intermittent relief.

Most common position of haemorrhoids is11 o'clock followed by 3 o'clock in our study , however, Agrawal S. et al reported most common position of hemorrohoids is 3 o'clock followed by 7 o'clock. [17]

Operative Procedures

Plication of hemorrohoids is a simple and effective procedure for the treatment of haemorrhoids.

The advantages are that it's simple and easy to learn , can be done as a day care surgery, no postoperative pain, no postoperative retention of urine, no significant bleeding during and after operation, early recovery, immediate control of symptoms, no anal stenosis and ideal for patients having portal hypertension and bleeding disorders.

Simple and Easy Procedure

Plication of hemorrohoids can be performed in 2^{nd} , 3^{rd} and 4^{th} degree haemorrhoids. A short period of about 5-7 minutes is required to plicate haemorrhoids once anaesthesia is given. It does not require costly equipment's. Expenditure for the operation is almost negligible.

Postoperative Pain

In 86.7% of patients in the present study there was no postoperative pain and 3.3% had pain but these patients had been treated simultaneously for fissure-in-ano and fistula. Dowidar et al, observed that 8.7% of patients had pain in placation of piles whereas, 54.55% had pain in excision and ligation of piles.[13] Agrawal S. et al, observed that 94% of cases had no pain, 6% of cases who had pain and were also suffering from fissure. [17] Pattanayak S. et al observed in his study 484 patients (95.47%) got relieved from postoperative pain by 72 hours, whereas in conventional method only 178 patients (35.10%) got relief from postoperative pain by 72 hours.[18]

Intra-Operative and Postoperative Bleeding

The amount of blood loss during the procedure was almost nil.

There was insignificant postoperative bleeding per rectum in 4.2 % of the patients which resolved by conservative treatment.

Nag KH et al, observed postoperative bleeding in 4.3% cases. [19]

Similar finding as that of present study was observed by Awojobi et al, Patnaik et al and Ezzeldeen et al, in the study of plication.[12,16,14]

Pattanayak S et al observed intra and postoperative bleeding occurred in (1.37%) in contrast to conventional method in which (13.4%) cases were having bleeding.[18]

Agrawal S. et al, observed no postoperative bleeding.[17]

Postoperative Retention of Urine

Single case of postoperative retention of urine was noted in our series 80y /m who was also suffering from fistula in ano and bph. Since in this procedure there is no incision or excision of piles so there is no disturbance of nerve supply to perineal area.

Dowidar et al, reported 4% postoperative urinary retention in plication of piles and 23% in excision and ligation of piles.[13]

After plication of piles Ezzeldeen et al, reported 9.37% patients had urinary retention.[14]

Agrawal S. et al, observed no case of postoperative retention of urine.[17]

Postoperative Management

In this procedure no postoperative management was required. Once the effect of anaesthesia was over they were allowed to take full diet. All patients were given lactulose 3 teaspoon in the night and first bowel action usually followed on the first postoperative day. There was no need

of postoperative dressing, enema and digital dilatation. Oral antibiotics (ciprofloxacin) were given prophylactically for 5 days to prevent abscess. Hot sitz bath was advised and laxative was given along with smuth ointment. Routine analgesics were not prescribed.

In Patnaik's, study 88% patients had painless first bowel action whereas, only 2% patients who had undertaken classical haemorrhoidectomy had.

Dowidar et al observed first bowel action in plication of piles on first postoperative day whereas on 2nd postoperative day in excision and ligation of piles in most of the patients.[13]

Pattanayak S et al observed 82.06% of patients had painless bowel movements , 13.01% patients had painful bowel movements with blood in stool, 4.93% patients had painful bowel movements without blood in stool after plication method whereas only 3.16% of patients had painless bowel movements, 28.40% patients had painful bowel movements with blood in stool, 68.44% patients had painful bowel movements without blood in stool after conventional method.[18]

Early Recovery

The procedure is performed as a day-care procedure. After plication of piles patients can be allowed to go home on the same day and were allowed to join office work from next day. But due to (inconvenience) poor transport system and spinal anaesthesia many patients had gone home the next day.

In Farag's, study on plication of piles, he observed that the mean stay in the hospital was 3.6 days against 7.2 days who had undergone classical haemorrhoidectomy. [20]

In Patnaik's, study all patients were allowed to go home on the same day and time off work was 1 day. [16]

Pattanayak S et al observed reported all the patients who underwent plication stayed in the hospital for 1-2 days, and were able to carry out their daily work after 5-7 days but in conventional method in his study the patient had to stay in the hospital for 5-9 days, and were able to carry out their daily work after 14-26 days. [18]

Follow up

Our cases have been followed up for 6 months in the present study. The results were satisfactory. 1.7% of the patients i.e 2 patients had pain for which 1 had to be operated for fissure and in other one analgesics had to be continued for long term. 2.5% of the patients developed bleeding and prolapse again in which 1.7% patients underwent the procedure again and rest managed conservatively. 1.6% of patients developed constipation and re bleeding and were managed conservatively.

No long term complication/ recurrence were noted. Incontinence to flatus, faeces, and stenosis and recurrence of other symptoms were not seen.

In Farag's, study and Dowidar et al, study on plication of piles no long term complication was observed for a year. [20,13]

Patnaik, in his study on plicaton of piles had bleeding in 0.5% patient on long-term follow-up for a year whereas in haemorhoidectomy it was in 33% of patients. [16]

Pattanayak S et al observed 97.8% patients had no long-term complications, only 2.16% patients had long-term recurrent bleeding, no patients had incontinence to faeces/flatus, anal continence, recurrence after plication whereas after conventional method 75.8% patients had no long-term complications, 7.69% patients had recurrent bleeding, 6.90% had incontinence to faeces/flatus, 2.36% had anal stenosis, 7.29% had recurrence as long-term complications. [18]

Conclusion

The treatment of haemorrhoids has been widely discussed in the various literatures. The various methods are being employed by majority of surgeons throughout the world.

However, optimal choice of surgical method for treating such a wide disease require that the approach should be so simple so as to suit calibre of all surgeons with varying experience and be so convenient so as to be readily acceptable to all patients and yet be effective in a large number of patients and should be cost effective also.

From the above discussion it is quite clear that plication is a relatively painless procedure in comparison to the conventional methods as nor the skin, or the sphincter is dealt with. Post-operative problems such as bleeding, incontinence, anal stenosis or recurrence of symptoms were not found in the plication method. This technique requires a very short hospital stay and very short length of time off work. Because of these executions, and safety in the hands of relatively inexperienced, this can strongly be recommended for rural India where sophisticated facilities are usually not adequate. Plication of piles can be performed in symptomatic 2nd, 3rd and 4th degree haemorrhoids, this procedure takes very short time without the need of any costly instruments and can be done on elderly patients, so the expenditure by the patient is very less and is a suitable technique for developing and under developed countries.

Plication of piles aims at answering a simple, safe but an effective method of surgical treatment of haemorrhoidal disease that suits second , third and fourth degree of symptomatic haemorrhoids; in addition to establish a non-expensive method.

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