

A Comparative Study of Efficiency Between Anal Fissurectomy And Partial Internal Sphincterotomy For Chronic Anal Fissure

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Abstract: One hundred patients with chronic anal fissure were admitted to the surgical wards of S.V.R.R.G.G. Hospital, Tirupati during the period of August 2016 to November 2017, treated by Anal Fissurectomy or Partial Closed Internal Sphincterotomy. These cases were compared regarding the Gender, Age, Mode of presentation, Post operative pain score and recurrence. These patients were followed up for a maximum period of 1 year after ethical committee clearance. The results of treatment were evaluated with reference to post operative complications and recurrence.

The Anal Fissurectomy and partial closed internal sphincteromy techniques are effective in treatment of anal fissure and are not significantly different in terms of the occurrence of post-operative complications such as incontinence or soiling, recurrence, and healing rates in patients with Chronic Anal Fissure. Post operative pain was less in partial closed internal sphincteromy technique than in the Anal Fissurectomy technique. Healing was better with a shorter mean duration of stay in the partial closed internal sphincteromy group than in the Anal Fissurectomy group, along with a reduced overall cost burden. There was statistically significant difference between the mean pain score on the visual analog scale at 12 hours and 24 hours after the operation and the duration of hospital stay in two groups. partial closed internal sphincteromy is the treatment of choice for chronic anal fissure and it can be performed effectively and safely with a low rate of complications and a reduced cost burden for the patient. partial closed internal sphincteromy is the treatment of choice for a chronic anal fissure. It can be done under local anesthesia as a day case, effectively and safely with an acceptable rate of complications and less postoperative discomfort

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I. Introduction

Anal fissure is a benign yet highly prevalent condition that can cause considerable pain and discomfort. It is a longitudinal split or tear of the anal canal extending from the anal verge towards the dentate line. Although it involves only the epithelial layer of the distal anal canal at the outset, it may eventually involve its full thickness. Fissures occur most often in the posterior midline and less often anteriorly owing to the relatively poor blood supply of the posterior commissural region. Locations other than the midline are involved in fissures arising from underlying conditions such as Crohn's disease, retroviral illness, or malignancy.

Fissures typically involve the internal anal sphincter and this goes into spasm and impedes healing by moving the two margins apart and diminishing the blood supply to the region. When a fissure has been present for more than 6 weeks, it is referred to as chronic. A chronic anal fissure(CAF) is distinguished by the presence of features such as sentinel skin tag and hypertrophied anal papilla. Acute fissures usually heal with conservative measures taken to relieve constipation and the associated pain. CAFs and fissures due to underlying diseases are unlikely to resolve with conservative management. The principle aim of treatment for a CAF is to reduce the tone of the internal sphincter and hence increase the blood flow with subsequent tissue healing. Treatment options include pharmacotherapy and surgery. Conventional pharmacological treatment uses muscle relaxants, commonly topical drugs and occasionally drugs given by mouth. These drugs include nitrates (glyceryltrinitrate), calcium channel blockers, botulinum toxin, alpha-adrenoreceptor antagonists, beta adrenoreceptor agonists, and muscarinic agonists. New pharmacological drugs being tested include gonyautoxin, a paralytic neurotoxin derived from shellfish.

Surgical treatment includes anal dilatation and posterior or lateral internal sphincterotomy. Finger anal dilatation is generally been associated with anal incontinence. Calibrated and controlled procedures with anal

dilatators or pneumatic balloons have been developed. Lateral sphincterotomy has been regarded as the gold standard.

This study aimed to compare the efficiency between anal fissurectomy and partial closed internal sphincterotomy for chronic anal fissure. Various studies have shown the superiority of lateral sphincterotomy over fissurectomy. Newer surgical treatments that have evolved include local flap procedures such as VY advancement flaps and rotation flaps. Attempts at fissure revision have led to the development of fissurectomy and fissurotomy procedures. A new method of blunt division of the internal sphincter fibers called sphincterolysis has also been described. Surgical internal sphincterotomy is recommended as the first-line treatment in patients with anal hypertonia. It achieves permanent reduction of hypertonia with the relief of symptoms and is very successful in healing CAFs while causing minimal morbidity.

Hence this study aimed to compare the efficiency between Anal fissurectomy and Partial Closed Internal Sphincterotomy for chronic anal fissure

II. Aims And Objectives

1. To compare the postoperative complications between anal fissurectomy and partial closed internal sphincterotomy.
2. To Compare the incidence of recurrence between anal fissurectomy and partial closed internal sphincterotomy.

III. Patients And Methods

This prospective study is conducted in Department of General Surgery at S.V.R.R.G.G. Hospital from August 2016 to November 2017 on patients attending surgical OPD and admitted in General Surgical wards with clinically diagnosed as chronic Anal Fissure.

Inclusion criteria:

1. All patients above the age of 20 years with a clinically Diagnosed chronic Anal Fissure.
2. Patients giving written informed consent.

Exclusion criteria:

1. Patients below 20 years of age.
2. Patients with Hemorrhoids and Fistula in Ano.
3. Patients who are not willing to give consent.

100 patients are included in this study. Demographic data like name, age, sex, occupation, economic status, literacy status are noted. The cases are subjected to routine investigations. Selection of patient for particular method of surgery is being done by systematic random technique. Every alternate case will be preferred for one of the method of surgery. Comparison of post-operative complications between the above two procedures is done.

Ethical considerations:

Informed consent is taken from the patients for physical examination and investigations given due respect to maintain patients privacy and keep them comfortable. Permission is taken from institutional Ethical Committee for this study.

Statistical analysis:

The Chi square test was used to compare sexes, Fissure position, symptoms at presentation, and postoperative complications in the two groups. The Student t test was used to compare the age, postoperative pain, and length of stay. Quantitative variables such as age and time are presented as mean standard deviation values.

Hypothesis testing was carried out by applying the chi-square test at the $P < 0.05$ level of significance.

Study design: Randomized Prospective study.

Setting: SVRRGG Hospital, Tirupati surgical wards.

Study population: Adult patients with chronic anal fissures

IV. Results

Table-1: sex distribution

| Sex | No. of patients | Percentage % |
|--------|-----------------|--------------|
| Male | 78 | 78 |
| Female | 22 | 22 |
| Total | 100 | 100 |

In our study among one hundred patients having a chronic anal fissure, 78% were male and 22 (22%) were female, with the male-to-female ratio being 3.5:1 (Table 1). Their age ranged from 20-50 years, with a mean age of 35 ± 5 years. In a study done by ShafiqUllah⁽¹³⁾ 84% of patients are male and 16% are female, with a male-to-female ratio of 5.1:1. Furthermore, in the study done by Nahas⁽⁸⁾ 70% of patients are males and 30% are females, with a ratio of 2.3:1, and in a study done by Melange⁽¹⁴⁾ 52.2% are males and 47.8 % are females, with a ratio of 1.15:1.

Table-2: age distribution

| Age (years) | No. of patients | Percentage % |
|-------------|-----------------|--------------|
| 20-30 | 25 | 25 |
| 31-40 | 55 | 55 |
| 41-50 | 20 | 20 |
| Total | 100 | 100 |

The peak incidence of age of the patients with a chronic anal fissure was in the age group 31- 40 (55%), while there was a lower incidence in age the group 41-50 (20%) (Table-2).

Table-3: Site of Fissure

| Site | No. of patients | Percentage % |
|-----------|-----------------|--------------|
| Posterior | 85 | 85 |
| Anterior | 15 | 15 |
| Other | 0 | 0 |
| Total | 100 | 100 |

Most of the patients are having a posterior midline fissure 85(85%), while only 15 (15%) of the patients are having an anterior midline fissure, and no patients had a lateral fissure in ano (Table 3).Mazier and Levien(7) described that anal fissures are more common posteriorly; Cushieri(15) also described that most of the anal fissures are at the posterior midline. Nahas(8) reported that 86.1% are posterior and that 13.9% are at the anterior midline, and ShafiqUllah(13) reported that 88% of patients are at the posterior midline, 10% anterior midline and 2% other (lateral)

Table-4: Mode of Presentation

| Symptoms | No. of patients | Percentage % |
|-------------------|-----------------|--------------|
| Pain | 54 | 54 |
| Bleeding and pain | 30 | 30 |
| Perianal swelling | 10 | 10 |
| Pruritus ani | 5 | 5 |
| Constipation | 1 | 1 |
| Total | 100 | 100 |

The patients in our study are presented with a history of pain during and after defecations, bleeding per rectum, constipation, pruritus ani and swelling at the level of the anal verge. Eighty-four (50+30=84%) patients had pain during and after defecation, either alone or associated with bleeding per rectum, especially in the form of a streak over the stool. Fifty-four (54%) patients suffer from some degree of anal pain alone, and about 30 (30%) patients suffer from anal pain with bleeding. Ten (10%) patients presented with perianal swelling which on examination, there was sentinel piles. Only 5 (5%) patients had pruritus ani, and only one (1%) patient presented with constipation (Table 4). The results are very close to the results reported by Hananel and Gordon⁽¹²⁾ (about 90.8% and 71.4%, respectively).

Table-5: post operative complications

| complications | Group A Partial Closed internal Sphincterotomy | | Group B Fissurectomy | | P value |
|---------------|---|--------------|-------------------------|--------------|---------|
| | No. of patients | Percentage % | No. of patients | Percentage % | |
| Pain | 2 | 4% | 4 | 85 | < 0.001 |

| | | | | | |
|--------------|----|----|----|-----|---------|
| Bleeding | 0 | 0% | 2 | 4% | <0.001 |
| Infection | 1 | 2% | 4 | 8% | <0.001 |
| Incontinence | 4 | 8% | 10 | 20% | < 0.001 |
| Recurrence | 4 | 8% | 6 | 12% | < 0.001 |
| Total | 11 | 22 | 26 | 52 | |

The results of postoperative complications in our study are as following: Two (4%) patients complain of pain in group A (Partial Closed internal Sphincterotomy method), while 4 (8%) patients complain in group B (Fissurectomy method). Two (4%) patients complain of postoperative bleeding in group B, while no one (0%) did in group A.

Postoperative infection was recorded in 1 (2%) patient in group A and 4 (8%) patients in group B. Incontinence for flatus was 4 (8%) patients in group A and 10 (20%) patients in group B. Recurrence occurs in 4 (8%) patients in group A and 6 (12%) patients in group B (Table 5). Most of the anal fissures were found in middle aged patients

about 55% of which were between 31 and 40 years of age, and the mean age in our study was 35 years \pm 5. The mean age reported in different studies ranges from 30-45 years (Nahas SC(8) Leong AF(11) , Hananel N(12) andShafiqUllah(13)

V. Discussion

In the present study 100 patients with age ranging from 20-50 years with mean age of 35.5 years are included. Majority are in the age group of 31-40 years (55%)

The incidence of Chronic Anal Fissure decreased with each decade of advancing age after 4th (41-50 years) decade with least number of cases reported after 50 years.

Most of the Chronic Anal Fissure cases are between 31-40 years.

Mean age of Chronic Anal Fissure is 35.5 years

Midline posterior Chronic Anal Fissure seen in 85% of cases.

Midline anterior Chronic Anal Fissure are seen in 15% of cases.

Mode of presentation:

84% of patients had pain during and after defecation either alone or associated with bleeding per rectum, especially red streaks in the stool.

54% of patients suffering from Anal Pain alone

30% patients suffering from Anal Pain and bleeding

10% patients present with sentinel pile on examination

5% of patients had pruritis ani.

Post operatively in our study:

Incontinence and Recurrence are common in Fissurectomy group patients

Incontinence and Recurrence less in partial closed internal sphincterotomy group patients.

Healing is better in partial closed internal sphincterotomy group patients.

Hospital stay is shorter in partial closed internal sphincterotomy group patients.

Low rate of complications in partial closed internal sphincterotomy group patients.

Cost Burden is low in partial closed internal sphincterotomy group patients.

Almost half of all patients in whom an acute anal fissure has been diagnosed will heal with non operative measures, ie, sitz baths, psyllium fiber and bulking agents, with or without the addition of topical anesthetics or anti-inflammatory ointments⁽¹⁻⁶⁾ In addition to fissure healing, symptomatic relief of pain and bleeding can be achieved with virtually no side effects.

Topical nitric oxide donors have been associated with healing in at least 50% of treated chronic fissures and use of topical nitroglycerin significantly decreases pain during the therapy period in an updated Cochrane review of medical treatment of anal fissures. However, that topical nitroglycerin remains only marginally better than placebo in healing anal fissures. Dose escalation does not improve healing rates^(7,14) The principal side effect is headache, occurring in at least 20% to 30% of treated patients. This adverse effect is dose-related and causes cessation of therapy in up to 20% of patients. The incidence of fissure recurrence after treatment with topical nitric oxide donors is dramatically higher compared with outcomes after surgery, although morbidity is lower^(8,10,12). Patients who do not respond to topical nitrates should be referred for botulinum toxin injections or surgery^(7,8,10)

Topical calcium channel blockers have been associated with healing of chronic anal fissures in 65% to 95% of patients.⁽²⁴⁻³¹⁾ Side effects include headache, in up to 25% of patients,⁽²⁹⁾ and occur less frequently than with topical nitrates.⁽²⁷⁻²⁹⁾ There are still fewer randomized controlled trials of topical calcium channel blockers than of topical nitric oxide donors. Anal fissures may also be treated with oral calcium channel blockers⁽³²⁻³⁵⁾ This is associated with a lower rate of fissure healing than topical application and has higher incidence of side effects⁽³²⁾. Few direct comparisons of topical and oral calcium channel blockers are also present in the review of literature.

Injection of botulinum toxin into the internal anal sphincter allows healing in 60% to 80% of fissures, and at a higher rate than placebo. The most common side effects are temporary incontinence to flatus in up to 18% of patients and stool in 5%. Recurrences may occur in up to 42% of cases, but patients may be re-treated with a good rate of healing. Higher doses are associated with improved rates of healing and are as safe as lower doses. Topical nitrates appear to potentiate the effects of botulinum toxin in patients with refractory anal fissure. There is no consensus on dose, site, or number of injections. Patients in whom botulinum toxin injection therapy fails should be recommended for surgery. We have intentionally not included this treatment modality because of the paucity of data and the widespread unavailability of these agents.

Partial closed internal sphincterotomy (PCIS) remains the surgical treatment of choice for refractory anal fissures.⁽²²⁾ Multiple studies and a recent Cochrane review show that PCIS is superior to uncontrolled manual anal dilation, yielding superior healing rates with less incontinence. Controlled pneumatic balloon dilation has shown promise in one small series. PCIS offers superior healing and lower incontinence rates compared with posterior sphincterotomy-fissurectomy alone. The addition of topical nitric oxide donors or botulinum toxin improves results of fissurectomy in nonrandomized series.

Further well-done studies confirm the prior assertion that there is no difference in outcomes between properly performed fissurectomy or Partial closed internal sphincterotomy

A "tailored sphincterotomy" has been proposed in an effort to reduce the rate of minor incontinence following PCIS. Two methods are typically employed—sphincterotomy only to the apex of the fissure or anal calibration. Three randomized trials of traditional vs fissure apex sphincterotomy show statistically superior healing rates in the traditional arm⁽²⁾ reported worse continence in the traditional arm, whereas one did not. To improve these results, a calibrated sphincterotomy has been reported. In these studies, fissure apex sphincterotomy was compared with a sphincterotomy that was extended based on the amount of residual anal stenosis remaining by use of a calibrated sound. In a small series, this method showed equivalent healing and lower incontinence rates than traditional sphincterotomy⁽¹⁸⁻²⁰⁾

Techniques that do not divide the internal anal sphincter yet allow good healing rates are theoretically attractive, especially in patients with preexisting continence problems or in those without internal anal sphincter hypertonia. Small series of various anal advancement flaps show promise.^(14,18) One series of unroofing subcutaneous sinuses associated with typical anal fissures reported excellent healing without changes in continence. Larger trials in this area are still needed.

Multiple trials continue to confirm the superiority of PCIS to any topical or injected agent with low rates of incontinence.⁽¹⁰⁻¹⁸⁾ Most investigations show that compliance with long-term medical therapy remains an issue. The Cochrane Collaboration analyses of both surgical and nonsurgical therapies for anal fissure confirm these conclusions. Quality of life (QOL) is poor in patients with persistent fissure, whereas patients undergoing LIS report significantly improved QOL. QOL is preserved in the vast majority of patients following PCIS. The practice parameters set forth in this document have been developed from sources believed to be reliable. The American Society of Colon and Rectal Surgeons makes no warranty, guarantee, or representation whatsoever as to the absolute validity or sufficiency of any parameter included in this document, and the Society assumes no responsibility for the use of the material contained.

Several complications have been reported following internal sphincterotomy. The majority of studies have demonstrated that unhealed and recurrence rates and alterations in continence are lower with lateral internal sphincterotomy than with these other procedures⁽¹⁵⁾. Unhealed or recurrence rates are reported in 1% to 6% of patients in large series^(1,9,10). Incontinence to flatus has been reported in 1.5% to 15% of patients, and fecal soilage in 0% to 11% of patients, with most series reporting rates in the lower end of the range^(1,9,10). Postoperative complications of prolapsed thrombosed hemorrhoids, hemorrhage, perianal abscess, and fistula-in-ano are each reported in approximately 1% of patients⁽⁷⁾.

Table-6: Patient Comparison Fissurectomy Vs Partial Closed Internal Sphincterotomy

| VARIABLES | | TOTAL PATIENTS [N=100] | | |
|-----------|--------|--|-----------------------|--------------|
| | | Partial Closed internal Sphincterotomy (N= 50) | Fissurectomy (N = 50) | P VALUE |
| AGE | <30 | 12[24%] | 13[26%] | 0.108 |
| | 30-40 | 23[46%] | 22[44%] | |
| | >40 | 10[20%] | 10[20%] | |
| SEX | MALE | 40[80%] | 38[76%] | 0.251 |
| | FEMALE | 10[20%] | 12[24%] | |
| BLOOD | YES | 17[34%] | 13[26%] | 0.204 |
| | NO | 33[66%] | 37[74%] | |
| PAIN | YES | 29[58%] | 25[50%] | 0.204 |
| | NO | 21[42%] | 25[50%] | |
| SKIN TAG | YES | 6[12%] | 4[8%] | 0.556 |

| | | | | |
|----------|-----------|---------|---------|--------------|
| | NO | 44[88%] | 46[92%] | |
| LOCATION | POSTERIOR | 41[82%] | 44[88%] | 0.801 |
| | ANTERIOR | 9[18%] | 6[12%] | |

Table 6 shows a comparison between the two groups and the patient characteristics. There was no significant difference between the patient characteristics in the two randomized groups. In the patients undergoing Fissurectomy, about 80% of patients were free of symptoms on the next postoperative day, while in the patients undergoing partial closed internal sphincterotomy, about 92% were. Hiltunen and Matikainen^[16] and Shafiq Ullah^[13] described similar results in the case of lateral internal sphincterotomy. In our study, the results of Fissurectomy and Partial closed internal sphincterotomy techniques are compared regarding pain (8% versus 4%), bleeding (4% versus 0%), infection (8% versus 2%), in-continance (20% versus 8%) recurrences (12% Versus 8%) are effective in the treatment of a chronic anal fissure. However, this study showed that Partial closed internal sphincterotomy is significantly better than the open technique (p<0.001). Pernikoff, et al.⁽¹⁷⁾ and Shafiq Ullah⁽¹³⁾ have also reported that the complications rate is relatively higher in the Fissurectomy technique than the closed technique. Kortbeek et al.⁽¹⁸⁾ and ShafiqUllah⁽¹³⁾ had reported that Partial closed internal sphincterotomy for a chronic anal fissure is effective and may result in less postoperative discomfort, shorter postoperative length of stay and a comparable rate of complications compared with Fissurectomy.

Table-7: post operative pain (Fissurectomy vs Partial closed internal Sphincterotomy)

| POST OPERATIVE DURATION | GRADE OF PAIN | TOTAL PATIENTS[N=100] | | |
|-------------------------|---------------|---|---------------------|---------|
| | | Partial Closed internal sphincterotomy (N=50) | Fissurectomy (N=50) | P VALUE |
| 6 HOURS | NONE | 47[94%] | 48[96%] | 0.556 |
| | ANNOYING | 3[6%] | 2[4%] | |
| 12 HOURS | NONE | 45[90%] | 40[80%] | 0.228 |
| | ANNOYING | 5[10%] | 10[20%] | |
| 24 HOURS | NONE | 32[64%] | 23[46%] | 0.217 |
| | ANNOYING | 15[30%] | 21[42%] | |
| | UNCOMFORTABLE | 3[6%] | 6[12%] | |
| 36 HOURS | NONE | 14[28%] | 15[30%] | 0.359 |
| | ANNOYING | 23[46%] | 29[58%] | |
| | UNCOMFORTABLE | 3[6%] | 6[12%] | |
| 48 HOURS | NONE | 8[16%] | 9[18%] | 0.729 |
| | ANNOYING | 39[78%] | 36[72%] | |
| | UNCOMFORTABLE | 3[6%] | 5[10%] | |
| 60HOURS | NONE | 7[14%] | 9[18%] | 0.711 |
| | ANNOYING | 41[82%] | 38[76%] | |
| | UNCOMFORTABLE | 2[4%] | 3[6%] | |
| 72 HOURS | NONE | 14[28%] | 14[28%] | 0.898 |
| | ANNOYING | 32[64%] | 33[66%] | |
| | UNCOMFORTABLE | 4[8%] | 3[6%] | |
| 96 HOURS | NONE | 45[90%] | 37[74%] | 0.898 |
| | ANNOYING | 0 | 1[2%] | |
| | UNCOMFORTABLE | 5[10%] | 12[24%] | |

Table -8 Comparison of Age Distribution Results with Shafiq Ullah Study

| | MALE | FEMALE | RATIO |
|--------------------|------|--------|---------|
| Present study | 78% | 22% | 3.5 : 1 |
| Shafiq ullah study | 84% | 16% | 5.1 : 1 |

In Present Study Seventy-eight percent (78%) of patients are male and 22% of patients are female, with a male-to-female ratio of 3.5:1. In a study done by ShafiqUllah(13) 84% of patients are male and 16% are female, with a male-to-female ratio of 5.1:1

Table-9: Comparison of Site of Fissure Results with Shafiq Ullah Study

| | Posterior midline fissure | Anterior midline fissure |
|-------------------|---------------------------|--------------------------|
| Present study | 85% | 15% |
| Shafi ullah study | 88% | 12% |

In our study, 85% of patients presented with a posterior midline fissure and 15% of patients presented with an anterior midline anal fissure, ShafiqUllah⁽¹³⁾ reported that 88% of patients are at the posterior midline, 10% anterior midline and 2% other (lateral).

Table- 10: Comparison of Mode of presentation Results with Hananel and Gordon et al., Study

| | PAIN | BLEEDING AND PAIN |
|--------------------------|-------|-------------------|
| Present study | 54% | 30% |
| Hananel and Gordon study | 90.8% | 71.4% |

In our study, about 54% of patients presented with pain only during or after defecation, and 30% of patients presented with bleeding and pain, which was very close to the results reported by Hananel and Gordon⁽¹²⁾ (about 90.8% and 71.4%, respectively).

Table-11: Comparison of Post operative complications with Lewis TH et al., study

| | Incontinence | | Infection | | recurrence | |
|-------------------|--------------|--------------|-----------|--------------|------------|--------------|
| | PCIS | FISSURECTOMY | PCIS | FISSURECTOMY | PCIS | FISSURECTOMY |
| PRESENT STUDY | 8% | 20% | 2% | 8% | 8% | 12% |
| LEWIS et al STUDY | 17% | 20% | 3% | 6% | 8% | 12% |

In our present study 8% in PCIS group developed post operative incontinence and 20% in Fissurectomy group developed post operative incontinence. In Lewis TH et. al study 17% in PCIS group developed post operative incontinence and 20% in Fissurectomy group developed post operative incontinence.

In our present study 2% in PCIS group developed post operative infection and 8% in Fissurectomy group developed post operative infection. In Lewis TH et. al study 3% in PCIS group developed post operative infection and 6% in Fissurectomy group developed post operative infection.

In our present study 8% in PCIS group developed post operative Recurrence and 12% in Fissurectomy group developed post operative Recurrence. In Lewis TH et al study 8% in PCIS group developed post operative Recurrence and 12% in Fissurectomy group developed post operative Recurrence.

However, Nelson et al have demonstrated that both methods are equally effective^(18,19). In addition, the American society of colon and rectal surgeons assert that there is no difference in outcomes between properly performed Fissurectomy and PCIS⁽¹⁴⁾.

Local practice at SVRRGG Hospital has not been well documented and therefore difficult to rationalize which approach is best suited in patients who present with chronic anal fissures. This study aims to determine which method either fissurectomy or Partial closed internal sphincterotomy offers a better outcome and thus help to rationalize local practice in surgical care. The purpose of this study is therefore to determine the outcome of chronic anal fissures treated using either of the two surgical methods and the impact either have on the quality of life of the patients

Recommendations

We recommend routine use of intra-operative prophylactic antibiotic (Ceftriaxone 1 gm) as well as sitz baths post operatively as evidenced by low rates of peri-anal sepsis in our study. The closed technique is fast and simple in experienced hands and therefore recommended for use in our hospital especially where time is limited.

Limitations of The Study

It is a single centre study with limited catchment area.

Limited time frame for only one year for the study.

In this perianal problems the number of studies are inadequate for comparison.

Limited follow up period.

Multiple surgeons with varied surgical skills are involved in this study which lacks uniformity.

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