



A COMPARATIVE STUDY ON SURGICAL MANAGEMENT VERSUS MEDICAL MANAGEMENT OF CHRONIC ANAL FISSURE.

General Surgery

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ABSTRACT

Objective: Chronic Anal Fissure (CAF) is common perineal condition and well-known painful entity. Anal fissure is a Longitudinal tear in the anoderm distal to the dentate line. The tear in anoderm causes spasm of internal anal sphincter, which causes pain and decreases blood supply leading to formation of chronic anal fissure characterised by visible internal sphincter, sentinel skin tag, hypertrophied Papilla and increased resting anal pressure. Both surgical management (Lateral internal sphincterotomy) and medical management (0.2 Glyceryl tri nitrate ointment) are available for chronic anal fissure. We found a need to do a comparative study between these two modality of management on basis of best outcome and minimum side effects. **Method:** A total of 40 patients meeting inclusion criteria were selected for prospective randomized study. Sample was selected from surgery OPD at Midnapore Medical College, Paschim Midnapore. 40 patients were distributed randomly into two (2) groups, each having 20 patients. Group 'A' undergone lateral internal sphincterotomy dividing lower 2 cm fibre. Group 'B' were advised to apply single brand of 0.2% Glyceryl Tri-nitrate over 1.5 to 2 cm in anal canal by using applicator/clean index finger 5 to 10 mins before and immediately after morning defecation and then subsequently 5 to 10 min before and immediately after each defecation for 6 weeks. After treatment Patients were followed up in 2nd & 6th months in respect to pain relief, bleeding per-rectum and Healing rate using history from patients, visual Analogue scale and Local examination. **Result:** Among total 40 patients included in study 31 patients are male and 9 are female. Among group 'A' patients pain relief 2 weeks post operatively is in 60% patients and after 6 weeks is 95% respectively. For Group 'B' patients it is 10% and 20% respectively. From the point of bleeding per rectum in post treatment period it is 33.33%, and 5% for group 'A' patients. For Group 'B' patient it is 16.67%, and 75% respectively. In respect to healing of fissure it is 26.67%, and 95% for Group 'A'. For Group 'B' it is 30% and 30% respectively. **Conclusion:** 0.2% Glyceryl Tri-nitrate may be considered as first line of treatment for chronic anal fissure. Lateral internal sphincterotomy is a better modality of treatment with better symptomatic improvement and healing rate [p value < 0.05]. But as it is invasive procedure and there is a risk of anal incontinence, it should be reserved for patients not improved to medical management.

KEYWORDS

Internal anal sphincter, chronic anal fissure, 0.2% Glyceryl-trinitrates.

INTRODUCTION

Anal Fissure (Fissure in Ano) is a tear in the Anoderm distal to the dentate line which often shows a considerable reluctance to heal and most commonly seen in posterior midline, though anterior midline and rarely away from the midline are also seen[3]. Fissures located away from the midline are usually associated with more serious systemic diseases such as Crohn's disease and immunodeficiency syndromes[1]. A tear in the Anoderm causes spasm of the internal anal sphincter, which results in pain, increased tearing and decreased blood supply to the Anoderm. This cycle of pain, spasm and ischaemia contributes to the development of a poorly healing wound that becomes a Chronic Anal Fissure[2].

Chronic Anal Fissure develops ulceration and heaped-up edges with the white fibres of the internal anal sphincter visible at the base of the ulcer. In addition, there is a perianal skin tag at the external margin of the fissure and a hypertrophied papilla at the dentate line. Chronic anal fissure is defined by these three findings—visible muscle, a skin tag (sentinel tag), and hypertrophied papilla.

The diagnosis is secured by the typical history of pain (because it involves the highly sensitive squamous epithelium) and bleeding with defecation, especially if associated with prior constipation. The diagnosis is confirmed by inspection after gently parting the posterior wall of anus[3]. Bleeding occurs but is usually scanty, bright red, and found on the tissue at cleansing after stool. Digital as well as proctoscopic examination may trigger severe pain, interfering with the ability to visualise the ulcer[3].

A soft touch of cotton swab to this area will elicit the pain and help with the diagnosis[4]. There is often an associated sentinel pile or tag externally and an enlarged anal papilla internally[2]. Increased resting anal pressures are documented in patients with chronic anal fissures and is considered as a major pathophysiologic factor[1]. These fissures are more challenging to treat and may require surgery[2].

MATERIALS AND METHODS

Study Area:

Department of General Surgery, Midnapore Medical College & Hospital, Midnapore.

Study Population:

Patients attended Surgical OPD for treatment of Chronic Anal Fissure.

Study Period:

January 2021 to June 2021 (6 months)

Sample Size:

Approximately 40 patients (20 from each group)

Source Of Data:

Data collected in performa and analysed from 40 patients (20 from each group) between 18-55 years age treated in OPD and as well as admitted to wards during the study period .

Sample Design:

Randomly divided into two groups.

Study Design:

Prospective Randomised controlled study

Inclusion Criteria:

- All the cases of anal fissures more than 3 months duration.
- Anal fissures with associated features of chronicity like sentinel piles, hypertrophied papillae and exposure of internal sphincter fibres.
- Failure of treatment with full course of 0.2% Glyceryl-trinitrate Ointment.

Exclusion Criteria:

- Patients on nitrates for medical condition like IHD.
- Recurrent anal fissures.

- c) Fissures in pregnant women.
 d) Anal fissures with Ulcerative Colitis and Chron's disease
 e) Patients with immunocompromised state.

Study Technique:

GROUP A: All patient underwent Lateral internal sphincterotomy by dividing the internal sphincter by open method. Patient were placed in lithotomy position. With the patient anaesthetised, the inter-sphincteric groove was palpated at the anal verge. 1-2 cm circumferential incision was given over the free edge of the internal sphincter. Blunt scissor dissection was done to develop the submucosal plane so that the anal mucosa could be lifted from the internal sphincter and to develop the inter-sphincteric plane so that there can be no damage to the external sphincter. Once the lower fibres of the internal sphincter were clearly separated from other structures, internal sphincterotomy was done by dividing the internal sphincter with scissors for a length ~ 2 cm.

GROUP B: All patient were advised to use a single brand of 0.2% Glyceryl-Trinitrate Ointment . Dose of administration was 1.5 to 2 cm in the anal canal with device provided by manufacturer of the proprietary preparation or with clean index finger or by taking the ointment in a clean piece of gauge/cotton and was advised to apply 5-10 minutes before and immediately after the morning defecation and then subsequently 5-10 mins before and immediately after each defecation for 6 weeks.

Analysis Of Data:

All the collected datas were entered in MS-Excel Spreadsheet. Analisation of data done using both descriptive and inferential statistics by using SPSS version 12 on computer. Chi-square test at $p < 0.05$ level of significance is used to find possible associations between categorical datas. Datas are presented in the form of tables, pie-diagrams, bar diagrams, graphs , etc.

Table 1.

	Pain present	Pain absent	Marginal row totals
Group A (Surgical management)	1 (8.5) [6.62]	19 (11.5) [4.89]	20
Group B (Medical management)	16 (8.5) [6.62]	4 (11.5) [4.89]	20
Marginal column total	17	23	40 (Grand Total)

The chi-square statistics is 23.0179. the p value is < 0.00001

Significant at $p < 0.5$

Chi-square statistics with Yates correction is 20.0512. The p-value is < 0.00001 . Significant at $p < 0.05$.

Table 2.

	Bleeding present	Bleeding absent	Marginal row totals
Group A (Surgical management)	1 (8) [6.12]	19 (12) [4.08]	20
Group B (Medical management)	15 (8) [6.12]	5 (12) [4.08]	20
Marginal column total	16	24	40 (grand total)

The chi-square statistic is 20.4167. The p-value is < 0.00001 . Significant at $p < 0.05$.

The chi-square statistic with Yates correction is 17.6042. The p-value is < 0.00001 . Significant at $p < 0.05$.

Table 3.

	Healing present	Healing absent	Marginal row totals
Group A (Surgical management)	19 (12.5) [3.38]	1 (7.5) [5.63]	20

Group B (Medical management)	6 (12.5) [3.38]	14 (7.50) [5.63]	20
Marginal column total	25	15	40 (grand total)

The chi-square statistic is 18.0267. The p-value is .000022. Significant at $p < 0.05$.

The chi-square statistic with Yates correction is 15.36. The p-value is < 0.000089 . Significant at $p < 0.05$

DISCUSSION

Lateral internal sphincterotomy is the standard surgical treatment of Chronic Anal Fissure. Even though it is not expensive, it may require hospital admission and stay and sometimes have worrying complications like anal incontinence, anal seepage of stool or soiling of under clothes, flatus incontinence, urinary incontinence, post-operative bleeding, haematoma etc[2,3]. But it is considered as more durable and effective treatment of chronic anal fissure[6,3,5,4].

Following the demonstration of nitric oxide as most important biological mediator of recto-anal inhibitory reflex, it has been shown that topical application of nitric oxide donor, such as Glyceryl-Trinitrate(0.2% Ointment) can lower the sphincteric pressure and heal anal fissure. Glyceryl-Trinitrate(0.2% Ointment) is a cost effective first-line treatment strategy for the management of chronic anal fissure[63]. But it is associated with side-effects like headache, tachyphylaxis, dizziness, flushing etc.Now a days calcium channel blockers like Considering all above facts it appears that there is a need to go for a comparative study on lateral internal sphincterotomy versus medical management (0.2% Glyceryl-trinitrate Ointment) of chronic anal fissure. So we propose to conduct the present study to document and compare the outcome and effectivity of lateral internal sphincterotomy versus use of 0.2% Glyceryl-Trinitrate Ointment as medical management of chronic anal fissure among the patients coming in the Surgery OPD at Midnapore Medical College & Hospital and also who are getting admitted among them for undergoing Lateral Internal Sphincterotomy. This study compares surgical intervention with non-surgical intervention on the basis of best outcome and minimum side-effects for the better treatment of an Agonising disease.

RESULT:

Among total 40 patients included in study 31 patients are male and 9 are female. Among group 'A' patients pain relief 2 weeks post operatively is in 60% patients and after 6 weeks is 95% respectively. For Group 'B' patients it is 10% and 20% respectively. From the point of bleeding per rectum in post treatment period it is 33.33%, and 5% for group 'A' patients. For Group 'B' patient it is 16.67%, and 75% respectively. In respect to healing of fissure it is 26.67%, and 95% for Group 'A'. For Group 'B' it is 30% and 30% respectively. For comparison between surgical and medical management on the basis of pain relief the chi-square statistics is 23.0179. The p value is < 0.00001 . Significant at $p < 0.5$. Chi-square statistics with Yates correction is 20.0512. The p-value is < 0.00001 . Significant at $p < 0.05$. For comparison between surgical and medical management on the basis of bleeding per rectum the chi-square statistic is 20.4167. The p-value is < 0.00001 . Significant at $p < 0.05$. The chi-square statistic with Yates correction is 17.6042. The p-value is < 0.00001 . Significant at $p < 0.05$. For comparison between surgical and medical management on the basis of healing of fissure the chi-square statistic is 18.0267. The p-value is .000022. Significant at $p < 0.05$. The chi-square statistic with Yates correction is 15.36. The p-value is < 0.000089 . Significant at $p < 0.05$.

CONCLUSION:

Medical management may be considered as first line of treatment in chronic anal fissure but definitive treatment and permanent treatment must be surgical management. Surgical management provides better relief from pain, absence of bleeding per rectum post surgical and better healing of chronic anal fissure when compared with medical management.

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