

## A PROSPECTIVE STUDY ON CLOSED LATERAL INTERNAL SPHINCTEROTOMY IN CHRONIC ANAL FISSURES

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### ABSTRACT

**Background:** An anal fissure is a longitudinal rupture in the mucosa of the lower anal canal that results in slight bleeding when hard stool is passed and uncomfortable defecation. It is linked to the traditional trio of hypertrophy papilla, sentinel tag, and anal ulcer. Anal dilatation has been the conventional treatment for this prevalent issue—the present research aimed to determine the rate of complications, healing, and pain alleviation.

**Objective:** to investigate the course of healing, pain management, and related consequences after a closed internal sphincterotomy for a persistent anal fissure.

**Material & Methods:** From July 2015 to June 2017, this research was carried out at the Mardan Medical Complex Mardan at the Department of Surgery. The research included patients of either sex who had a persistent anal fissure. Patients with uncontrolled diabetes or on anticoagulant treatment, as well as those with a history of sphincterotomy, anal dilatation, and suspicion of malignant fissure, atypical fissure, or ulcer with accompanying abscess, were not allowed to participate in the research. Every patient had a closed internal sphincterotomy, followed by follow-up visits every two, six, and twelve weeks. Pre-made proforma were used to capture the data, and SPSS version 16 was used for analysis. Frequencies and percentages were computed for qualitative variables, and for quantitative data, mean and standard deviation.

**Results:** 68 of the 71 patients who were admitted got full follow-up. A ratio of 1.6 to 1. 51 patients, or 75% of the total, reported discomfort during defecation; 37 patients, or 54%, reported bleeding, and 4 patients, or 6%, reported pruritis. A week after the operation, discomfort persisted in 2 patients (2.9%), whereas 66 patients (97%) had total pain relief in 24 hours. In two of the four patients, bleeding and hematoma wound infection were seen. Two individuals had transient flatus incontinence, but no faecal incontinence was seen. Within six weeks, the fissure had completely healed in all 68 patients.

**Conclusion:** When a chronic anal fissure is treated with closed lateral internal sphincterotomy, there is little chance of complications and rapid symptom relief.

**Key Words:** Fissure in ano, anal fissure, closed internal sphincterotomy, chronic anal fissure.

### INTRODUCTION

A longitudinal ulcer in the anal canal is called a fissure in ano. It can be an acute anal fissure or a chronic anal fissure. It is one of the benign, painful

conditions of anoderm. The exact cause is unknown, but high sphincter pressure and secondary local ischemia are suggested as causative factors<sup>1</sup>. The classical vicious cycle is formed by pain, and consequently, internal sphincter spasm that leads to fissure formation causes pain in the anoderm<sup>3,4</sup>. Young adults are often impacted. Anal fissure development has a 1 in 54 lifetime probability. It is brought on by shearing trauma from violent diarrhoea and hard stools<sup>5,6</sup>. Anal fissures may also result from cancer, STIs, tuberculosis, and Chron's disease.

The goal of treating anal fissures is to lessen the internal anal sphincter's spasm by either pharmacologi-

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cal means or surgical release<sup>7</sup>. It is more challenging to treat chronic fissures conservatively<sup>8</sup>. The hypertonic internal anal sphincter may be relaxed by a variety of techniques, including topical diltiazem, injections of botulinum toxin, topical glyceryl trinitrate (0.2%), and surgical internal sphincterotomy. Surgical sphincterotomy provides the best healing rate and lowest recurrence rate of all these techniques<sup>9,10</sup>. A variety of surgical techniques, including anal dilatation, fissure excision, and fissure excision combined with sphincterotomy, are available for treating anal fissures. The gold standard for treating anal fissures is still lateral internal sphincterotomy, which has a recovery rate of 96.5%<sup>11</sup> with minimal risk of incontinence.<sup>7,12</sup> The current study was conducted to know the pain relief, healing and rate of complications, e.g. the haematoma development, bleeding, infection and incontinence in chronic fissures after closed lateral internal sphincterotomy.

## MATERIAL AND METHODS

From July 2015 to June 2017, this research was carried out at the Mardan Medical Complex Mardan at the Department of Surgery. Individuals of any age or gender who had a persistent anal fissure (symptoms lasting more than six weeks) were included in the research. Exclusions from the research were patients having a history of sphincterotomy, anal dilatation, intestinal TB, suspicion of a malignant fissure, atypical ulcers such as ulcerative colitis or Chron's disease, known diabetes, and patients on anticoagulant treatment.

Every patient provided a thorough medical history followed by a thorough physical examination. Every patient had a full series of standard examinations and was ready for a lateral internal sphincterotomy. Two hours before moving into a theatre, each patient had a Kleen enema. After the anaesthesia was induced, the patient was put in the lithotomy position. Following drapery and cleaning, a closed lateral sphincterotomy was carried out, and xylocaine with adrenaline was given subcutaneously and in the intersphincteric area.

The surgeons who conducted each surgery were consultants. Diclofenac injections were given every eight hours to relieve discomfort, along with injections of ceftriaxone, metronidazole, and pre-op during induction and eight hours postoperatively. Upon release on the first postoperative day, the patients were prescribed oral antibiotics and analgesics for a week, along with a high-fibre diet and lots of fluids.

Follow-up appointments were recommended for all patients after the second, sixth, and sixth months to assess common clinical outcomes, wound infection, fissure healing, discomfort, bleeding, and faecal incontinence.

All information was gathered using pre-made proforma and input into SPSS version 16. For qualitative data, frequency and percentages were computed, and mean and standard deviation were computed for quantitative variables. P values less than 0.05 were regarded as significant. Tables and charts were used to display every outcome.

## RESULTS

68 of the 71 patients who were admitted got full follow-up. It was 1.6:1 male to female. Table 1 displays the patients' age distribution.

Fifty-one patients, or 75% of the total, reported discomfort during defecation; 37 patients, or 54%, reported bleeding, and 4 patients, or 6%, reported pruritis.

Two patients' discomfort persisted for a week after the treatment, but 66 patients (97%) had total pain relief in under 24 hours. Two patients had a little bleeding that went away on its own, and one patient experienced recurrent bleeding that required pressure dressing management after two hours. To stop the

**Table 1: (n=68) Age wise frequency distribution of patients with anal fissure**

Age	Frequency	Percentage
15-20 years	7	10.2%
21-25 years	18	26.4%
26-30 years	21	30.8%
31-35 years	9	13.2%
36-40 years	7	10.2%
41-45 years	5	7.3%
46-50 years	1	1.4%
Total	68	100%
Mean and SD	30 years ± 2.16	

**Table 2: (n=68) Site wise frequency distribution of fissure**

Position	Frequency	Percentage
6 O'clock	47	69%
12 O'clock	19	28%
Both 6 & 12 O'clock	2	3%
Total	68	100%

bleeding, one of the patients required a new examination of the wound. There were just 2 individuals with temporary flatus incontinence and no evidence of faecal incontinence. Within six weeks, the fissure had completely healed in all 68 patients. After a few months, two of the patients had recurring fissures, for which lateral sphincterotomy was performed on the opposite side at nine o'clock. Merely 2.9% of cases result in wound infections treated with an antibiotic and an analgesic.

## DISCUSSION

In our study, the mean age of presentation was  $30 \pm 2.16$  years and comprised 70% males and 30% females, while in a study by Sagheer Ahmad et al., the mean age was  $36.4 \pm 8.8$  years, and men were found to have this condition, three times more frequently than women<sup>13</sup>. Memon et al. reported that men are affected 2.6 times more frequently than women<sup>14</sup>. Sanniyasi S et al. reported a mean age of  $35 \pm 5$  years with 41 males and 23 females out of 64 patients<sup>15</sup>, while in a study by Vivek Gupta et al., the mean age was 40.13 years with a to-female ratio of 1.47:1<sup>16</sup>. These findings are by national and international studies.

The majority In our research, 51 patients (75%) reported painful defecation or discomfort that persisted for an hour or more after that. In addition, 37 (54%) and 4 (6%) had bleeding and pruritis, respectively. According to Sagheer Ahmad et al., the most common complaint (79%) was bleeding per rectum, followed by some degree of anal discomfort (18.9%) and pruritis from discharge (3%). In contrast, research by Gupta et al. found that pain was the most common symptom (54.4%). Mousavi et al.<sup>17</sup> also reported a decreased incidence of rectum haemorrhage.

In this research, 28% of the patients had an anterior fissure, 3% had an anterior and posterior fissure, and 69% had a posterior (6 o'clock) fissure. According to Gupta et al., the posterior location is in 82.4% of cases, the anterior in 13.2%, both in 1.5%, and numerous sites in 2.9%<sup>16</sup>. Only two individuals in the Sanniyasi et al. research (15) had both anterior and posterior fissures, whereas most patients (approximately 60%) had posterior fissures, and 36% had anterior fissures. Our study, along with all the others, indicates that posterior anal fissures are more prevalent.

Sixty-six patients (97%) had complete pain relief in less than 24 hours, but 2 patients (2.9%), most likely

due to an infection, experienced discomfort that persisted for a week after the surgery. While Sanniyasi et al. reported that 87.5% of the patients were pain-free on the second postoperative day, Hageer, Ahmad et al. found that pain was greatly decreased in all patients in the first 24 hours. That postoperative discomfort persisted for five days in one patient (1%)<sup>13,15</sup>.

While Sagheer Ahmad et al. reported one patient(1%) having a hematoma and one (1%) experiencing rapid reactionary haemorrhage, our study's two patients had minor hematomas that healed spontaneously and two patients experiencing reactionary haemorrhage.<sup>13</sup> Only 2 (2.9%) individuals had temporary flatus incontinence, and no faecal incontinence was noted. Incontinence to flatus was reported by Sanniyasi et al. in 10% of patients<sup>15</sup>, but Sagheer Ahmad et al. found it in 3.35% of patients<sup>13</sup>, and Gupta et al. found no evidence of incontinence or soiling at all in their study<sup>16</sup>. All the 68 patients had complete healing of the fissure by 6 weeks. The healing rate was reported as 96.7% by Sagheer Ahmad et al.<sup>13</sup>, while no case of delayed or absent healing was noted by Gupta et al. in the patients who underwent closed lateral internal sphincterotomy<sup>16</sup>.

## CONCLUSION

Closed lateral internal sphincterotomy is a quick, safe, effective and less expensive procedure for the management of chronic anal fissures and is associated with minimal complication and quick healing rate.

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