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TOPICAL GLYCERYL TRINITRATE VERSUS LATERAL ANAL SPHINCTEROTOMY IN THE MANAGEMENT OF FISSURE-IN-ANO

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INTRODUCTION:

An anal fissure is a linear ulcer or crack that may extend from the mucocutaneous junction to the dentate line in the squamous lining of the anal canal. The most frequent beginning trigger is trauma to the anal canal, which typically manifests as the passage of a sizable, hard faecal matter. By encircling the borders of the ulcer and obstructing sufficient drainage, the internal sphincter's spasm may delay healing. The traditional procedure for treating this ailment has been a lateral anal sphincterotomy. Recently, topical glyceryl trinitrate (0.2%) has been used to lessen sphincter spasms, which helps the fissure heal. The purpose of this study is to compare the two methods[1].

AIMS AND OBJECTIVES:

The purpose of this study is to compare the outcomes of fissure-in-ano treated with Glyceryl trinitrate or Lateral anal sphincterotomy in terms of relief of symptoms and visual analogue score on 30th day after initiation of treatment.

MATERIALS AND METHODS:

This is a prospective comparative study based on analysis of 100 patients with fissure-in-ano who underwent treatment in Govt. General Hospital, Vijayawada from 2021 to 2022. 50 patients (Group A) were put on 0.2% glyceryl tri nitrate ointment topically over the perianal region twice daily and the remaining were treated surgically (Group B) with lateral anal sphincterotomy. They were compared for post-operative complications and pain assessment in terms of VAS after 30 days of initiation of treatment. Data was analysed using Microsoft excel 2019. Informed and written consent was taken from all the participants of the study. This study abided by the guidelines laid by the declaration of Helsinki.

RESULTS:

Mean age of the study population was 43.8 ± 5.8 years. The mean age of the study population in group A was 44.8 ± 4.5 years and the mean age of the study population in group B was 41.5 ± 3.4 years. The difference in age groups in both the populations is not statistically significant ($p>0.05$). Men were 65 and females were 35. In the study population, the most common presenting symptom was pain during defecation (85%), followed by bleeding per rectum. 88% of the patients had constipation as one of the predisposing factors. Posterior fissure was seen in 79% of the patients, followed by anterior (11%) and lateral (10%) fissures. A sentinel pile was observed in 78% of the patients. Among group A, relief of symptoms were observed in 72% of the patients, when compared to 89% of the patients in group B. The difference is statistically significant at $p<0.05$. Persistent pain and headache were observed in 14% and 8% cases respectively in group A. Pain, seroma, hematoma and infection were observed in 22%, 3%, 2% and 1% of the cases respectively. VAS on 30th day after initiation of treatment were 6 and 5.5 in group A and group B respectively. The difference is not statistically significant at $p>0.05$.

DISCUSSION:

Anorectal conditions like anal fissure (fissure-in-ano) are fairly typical. It can be a very unsettling condition because, if acute, the severity of the patient's pain and the degree of their disability far exceed what one would anticipate from a lesion that seems insignificant. By encircling the edges of the ulcer and obstructing adequate drainage, the internal sphincter's spasm may prevent healing. Patients with an anal fissure experience higher internal sphincter pressure as a result than healthy controls. Normally, the internal sphincter relaxes and the external sphincter contracts in response to rectal distension. Internal sphincter relaxation is followed by an abnormal contraction in fissure patients. This abnormal internal sphincter contraction goes away after successful treatment[2].

Vasodilator and smooth muscle relaxant, glyceryl trinitrate. Nitric oxide, an inhibitory neurotransmitter, is released as a result. The medication is applied locally for 6 to 8 weeks as a 0.2% cream to the BD or TDS of the anal canal. Applying a 0.2% ointment to the anal canal causes the sphincter to relax enough for up to two thirds of patients' fissures to heal. Additionally, the vasodilator properties of glyceryl trinitrate enhance local blood flow, which promotes healing. Sadly, glyceryl trinitrate ointment can cause very bad headaches[3].

The muscle is divided into two halves, with the sphincterotomy being performed laterally. The procedure is known as closed subcutaneous lateral internal sphincterotomy and can be performed using the subcutaneous technique under either local or general anaesthesia. A big sentinel pile or a prolapsed hypertrophied anal papilla should be removed, but the fissure itself does not need to be addressed. The recovery from surgery is relatively painless, and the wound closes up rapidly. Haemorrhage, perianal abscess development, and a slight loss of anal control are all complications[4].

In a 2001 study by Evans et al, 65 individuals were enrolled in the experiment, with 34 receiving glyceryl trinitrate and 31 receiving lateral sphincterotomy. After randomization, five patients were dropped. In the glyceryl trinitrate group, 20 of 33 (60.6 percent) patients had repaired fissures after eight weeks, while 26 of 27 (97 percent) patients underwent sphincterotomy. Twelve patients in the glyceryl trinitrate group received lateral sphincterotomy when their symptoms did not significantly improve. Patients' poor treatment compliance and poor tolerance were significant contributing factors in cases where glyceryl trinitrate failed to repair cracks. Sphincterotomy dramatically accelerated the healing of fissures compared to glyceryl trinitrate therapy. Nine out of the 20 patients who had fissures that were treated with glyceryl trinitrate paste later had new fissures appear. The lateral sphincterotomy procedure had no long-term side effects. They came to the conclusion that the majority of chronic anal fissures heal with glyceryl trinitrate paste. A sizeable proportion, however, get only little improvement or experience negative effects, necessitating traditional surgical intervention[5].

CONCLUSION:

Lateral sphincterotomy is better than glyceryl trinitrate for treating fissure-in-ano in terms of relief of symptoms but there is no significant difference in Visual analogue score on 30th day.

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