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Dr. Amutha
Professor, Department of General
Surgery, Sree Mookambika
Institute of Medical Sciences,
Kulashekharan, Tamil Nadu,
India

Dr. S Rajkumar
Professor, Department of General
Surgery, Sree Mookambika
Institute of Medical Sciences,
Kulashekharan, Tamil Nadu,
India

Dr. Anandraj
Junior Resident, Department of
General Surgery, Sree Mookambika
Institute of Medical Sciences,
Kulashekharan, Tamil Nadu,
India

Dr. Indran GP Nair
Junior Resident, Department of
General Surgery, Sree Mookambika
Institute of Medical Sciences,
Kulashekharan, Tamil Nadu,
India

A comparative study of chemical sphincterotomy (using 2% diltiazem) and lateral internal sphincterotomy for chronic anal fissure

Dr. Amutha, Dr. S Rajkumar, Dr. Anandraj and Dr. Indran GP Nair

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Abstract

Background: Anal fissure is the most common painful condition of anal region characterised by vertical ulcers affecting distal end of anal canal. The main aim of this study is comparing 2 % diltiazem and lateral internal sphincterotomy in the treatment of chronic anal fissure.

Materials and Methods: The Study was conducted as a clinical trial in Sree Mookambika institute of medical sciences, Kulasekharan from May 2020 to November 2020.100 patients diagnosed with chronic fissure in ano on the basis of history of painful defecation with or without per rectal bleeding for more than 6 weeks and per rectal examination were enrolled in the study after obtaining an informed written consent from them. Results has been detailed in both described and statistical point of view and simplified in understandable format.

Results: In 89.36% of patients in diltiazem group and 100% of patients in lateral internal sphincterotomy group fissure healed completely between 4-8 weeks. In the diltiazem group pain relief was good. 42 patients (89.4%) had pain relief at the end of 14 weeks. 5 patients (10.6%) had no pain relief. But pain relief in lateral internal sphincterotomy group was excellent with 100% patients having complete pain relief by 8 weeks' time. Mild headache was experienced with diltiazem by 3(6.4%) patients.1 patient (2.1%) complained of flatus incontinence with lateral internal sphincterotomy.

Conclusion: We conclude that lateral internal sphincterotomy is the gold standard treatment of chronic fissure in ano but chemical sphincterotomy using 2% diltiazem gel can be considered as a good second line treatment option in those unfit for surgery or for those not willing for surgery.

Keywords: Anal fissure, lateral internal sphincterotomy, chemical sphincterotomy, diltiazem

Introduction

Anal fissure is defined as linear ulceration of the squamous lining of the distal anal canal. It is more common that producing symptoms like pain on defecation constipation, bleeding per anum and pruritus^[1, 2]. Etiopathogenesis of fissure in ano is persistent hypertonia of the anal sphincter attributed by passage of hard stools, dietary irregularities, forceful passage of foreign body causing trauma and in females traumatic delivery is the most important cause^[3]. Therefore main aim of the treatment is to relieve the spasm of internal anal sphincter with medical and surgical method. Though Lateral internal sphincterotomy is the gold standard treatment with 95% clearance rate it has remarkable risk of impaired anal incontinence^[4].

Materials and methods

The study was conducted in Sree Mookambika institute of medical sciences, Kulasekharan from May 2020 to November 2020.100 patients diagnosed with chronic fissure in ano on the basis of history of painful defecation with or without per rectal bleeding for more than 6 weeks and per rectal examination were enrolled in the study after obtaining an informed written consent from them. Results has been detailed in both described and statistical point of view and simplified in understandable format.

Results

In our study most of the cases belonged to age group 21-30 years (figure 1) with slight male preponderance (figure 2). It was noted that 100% patients, both males and females had painful defecation which was followed by constipation, bleeding per anum, local pruritis and discharge

Corresponding Author:
Dr. Amutha
Professor, Department of General
Surgery, Sree Mookambika
Institute of Medical Sciences,
Kulashekharan, Tamil Nadu,
India

per anus (figure 3). Majority of the fissures were posterior in location with sentinel pile present in 78% of the patients. Cases were followed up at 2,4,6,8,14 weeks and 6 months for fissures healing, pain alleviation, side effects and recurrences. Three patients from group A and 2 patients from group B were lost to follow up and hence not included in statistical analysis. In 89.36% of patients in Group A and 100% of patients in group B fissure healed completely between 4-8 weeks. In the group A, who underwent treatment with 2% Diltiazem organo gel pain relief was good. 42 patients (89.4%) had pain relief at the end of 14weeks. 5 patients (10.6%) had no pain relief. But the pain relief in group B patients, who underwent lateral internal sphincterotomy, pain relief was excellent with 100% patients having complete pain relief by 8 weeks' time (figure 4). Mild headache was experienced by 3(6.4%) patients in group A (Diltiazem group). In group B, 1 patient (2.1%) complained of flatus incontinence and none in group A. 1 patient (2.1%) in the diltiazem group had recurrence which was subsequently managed by lateral internal sphincterotomy and fissure healed in 4 weeks after surgery. There was no recurrence in lateral internal sphincterotomy group. (10.6%) had no pain relief. But the pain relief in group B patients, who underwent lateral internal sphincterotomy, pain relief was excellent with 100% patient.

Discussion

Anal fissure is the linear ulceration of the squamous lining of the distal anal canal producing symptoms like pain on defecation, bleeding per rectum and pruritus [5]. It is most commonly seen in middle aged people with no sexual preponderance [6]. In our study most affected age group was 21 –30 with slight male

preponderance.

Anal fissures can occur in posterior midline, anterior midline or both commonest being in posterior midline because of lack of muscular support of anal canal epithelium posteriorly and poor blood support posteriorly [7]. In our study also posterior midline was the most common position affecting 92% of patients.

The Etiopathogenesis of fissure in ano is hypertonicity of internal anal sphincter [8]. Hence treatment like dilatation and internal anal sphincterotomy is aimed at reducing resting anal pressure and thereby treating the condition [9]. Anal fissures are divided into two types acute and chronic [10]. Anal fissures become chronic when they persist beyond 6 weeks and do not heal with dietary modifiers and stool softeners [11].

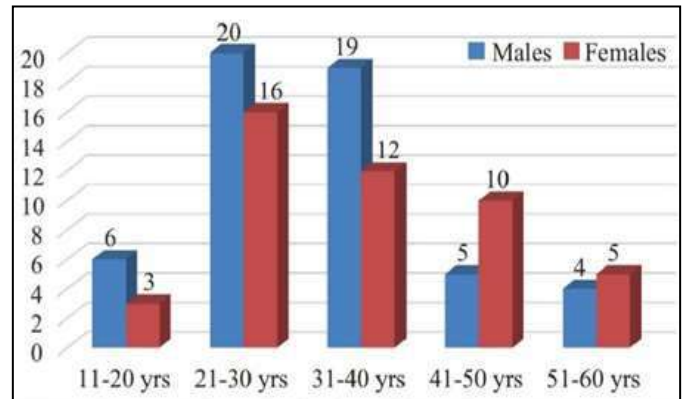


Fig 1: Age and sex distribution

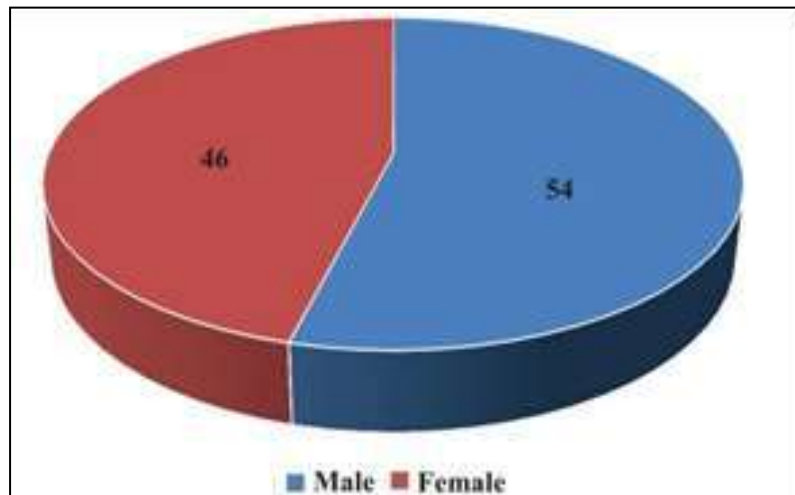


Fig 2: Sex distribution

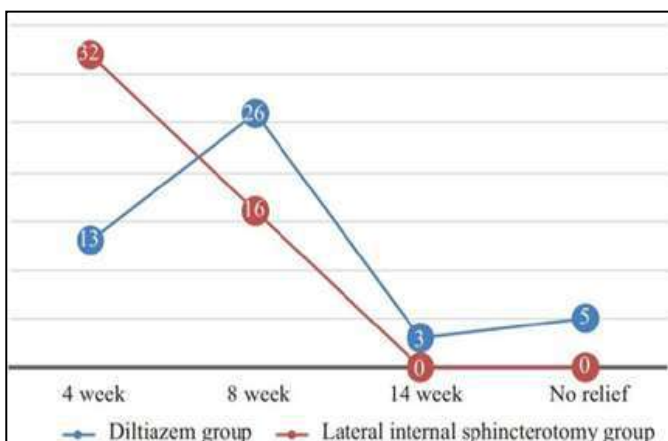


Fig 3: Pain relief in Diltiazem and lateral internal sphincterotomy group

Conclusion

From the present study we conclude that Lateral internal sphincterotomy is the gold standard in treating chronic anal fissure while topical 2% diltiazem gel can be considered as an optimal second line treatment in those patients who are unfit for surgery and for those patients who are not willing for surgery.

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