Original Research Article

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A proper application of chemotherapeutic agent at the site of anal fissure: a major concern in healing anal fissure

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ABSTRACT

Background: To show the efficacy of chemotherapeutic agent by special emphasis on its proper application at the site of anal fissure.

Methods: All patients were seen in outpatient department and were initially started with 0.2% Glyceryl trinitrate ointment along with sitz bath and psyllium fiber as a primary treatment while 2% diltiazem cream reserved for refractory cases. The follow up visits were made weekly for perianal pain relief and ulcer healing rate.

Results: Results in terms of healing of anal fissure and perianal pain relief in 2 or 4 weeks duration were recorded in SPSS version 17. 0.2% GTN ointment showed 75% results in 2 weeks. While complete response was achieved in 95% cases in 4weeks. 2% diltiazem responded in 98% cases in 2 weeks. Non-compliant (2%) abandoned the medical treatment early in the course and proceeded for surgery where 99.99% results were seen in 2weeks only.

Conclusions: Conservative treatment is the gold standard for managing anal fissure. Effective counseling of proper application of ointment at the site of anal fissure is emphasized, which is usually failed by the patient due to intense, excruciating peri anal pain and spasmodic sphincter contraction which led them to proceed to surgery.

Keywords: 0.2 % GTN, 2% Diltiazem ointment, Anal fissure, Proper peri anal application

INTRODUCTION

A 0.2% Glyceryl trinitrate (GTN) ointment is the cost effective first line treatment for the management of anal fissure. Anal fissure consists essentially of crack, ulcer or tear in the skin lined part of anal canal which often shows a considerable reluctance to heal.²

The pathogenesis of anal fissure principally caused by ischemia of the anal lining due to increased sphincter pressure and decrease blood flow and passage of hard stool. This was supported by post mortem angiography which revealed that the small branches of both inferior rectal arteries passing through the internal anal sphincter have no or only minimal contact at posterior commissure in 85% cases.³ Acute anal fissure is a clean longitudinal

tear in the distal anal canal extend from the level of dentate line to the anal verge.⁴

Chronic anal fissure is characterized by the presence of indurated edges, visible fiber of internal anal sphincter at the base of fissure and sentinel pile or tag at its distal end.⁵

Anal fissure pain is described as the pain like passing broken glasses and is commonly mentioned as a burning pain that can remain for several hours after defecation.⁶ Fresh bleeding can be an associated symptom usually misdiagnosed as hemorrhoids.⁷ Present study was conducted to show the efficacy of chemotherapeutic agent by giving emphasis on its proper application at the site of anal fissure.

METHODS

This study was descriptive, prospective conducted with 150 patients within three years (Jan 2015-Dec 2017).

The female patients between 18-50 years and all anal fissure irrespective of concomitant anal conditions like (hemorrhoids, thrombosed piles, anal fistula, anal tag or sentinel pile or perianal abcess etc.) were included.

The patients with concomitant gastro intestinal conditions like Crohn's disease, tuberculosis, malignancy and previous anal surgery were excluded.

Procedure

This prospective descriptive study was carried out in Isra University Hospital and Red Crescent Hospital Hyderabad in the period of three years over 150 female patients aged between 18-50 years. All patients were seen in outpatient department. Their presenting complaints were painful defecation with fresh bleeding per rectum and constipation. On clinical examination, they were found with fissure in ano either at 6 or 12 o' clock position with spasmodic sphincteric contraction. Sometimes, sentinel pile or thrombosed piles or external prolapsed hemorrhoids or peri rectal abcess were also seen along with fissure. However, they all were dealt after managing anal fissure. All patients were initially started with 0.2% Glyceryl Trinitrate ointment along with sitz bathing 4-5 times daily and oral lubricants and psyllium fiber (25-30mg) intake as a primary treatment while 2% calcium channel blocker (2% diltiazem cream) was reserved for refractory cases. The follow up visits were made weekly for observing peri anal pain relief and ulcer healing rate.

RESULTS

Total of one hundred and fifty patients were enrolled with anal fissure in which 95 (63%) were found with posterior anal fissure and 55 (36%) with anterior anal fissure.

Results were recorded in SPSS version 17. Concomitant anal conditions were seen in 30 (20%) patients either with hemorrhoids, peri anal abcess, sentinel pile or skin tag etc.

Ten (6.6%) patients were with pregnancy and 6 (4%) developed after delivery.

0.2% GTN ointment showed 75% results in 2weeks regarding pain relief and ulcer healing after its proper application at the site of anal fissure. While complete response was achieved in 95% cases in 4week period. Only 2% patients developed light headache which was treated by simple analgesics.

Refractory cases were dealt with 2% diltiazem where 98% results were obtained in 15 days (Table 1 and 2).

Three (1-2%) cases were non-compliant and they abandoned the medical treatment early in the course and proceeded for surgery where 99.99% results were seen in 2 weeks only.

Table 1: Management options in anal fissure and total no. of patients 150 (100%).

Treatment modality	No. of patients 150 (100%)
0.2% GTN	130 (86.66%)
2% Diltiazem	15 (10%)
Surgery	5 (3.33%)

Table 2: Efficacy rate of treatment modality in anal fissure in terms of its healing and perianal pain relief.

Duration of application	0.2% GTN 130 (86.66%)	2% Diltiazem 15 (10%)	Surgery 5 (3.33%)
2weeks	75%	98.9%	99.99%
4weeks	95%	None	None

Recurrence was seen in only 8 (5%) cases after use of 0.2% GTN in 7-9months interval which was again treated with the same regimen and was found successful. While no recurrence after calcium channel blocker and surgery was recorded in 2 years period.

DISCUSSION

Worldwide studies revealed that the non-surgical treatment of anal fissure as the main stay of the treatment in half of all admitted patients 8 while in this study 98% positive results were obtained.

According to Schlichtemeier S et al, topical 0.2% GTN works through its metabolites. It breaks the cycle of spasm by relaxing the internal anal sphincter and reducing the resting anal pressure.⁹

Author observed the similar beneficial effects like other studies with the use of other measures like increase fiber diet (psyllium) and warm bathing of the perineum (sitz bath) causing relaxation of internal anal sphincter via a soma to anal reflex.¹⁰

A Cochrane review reported the healing fissure rate 49% after 0.2% GTN ointment in contrast. Present study showed 95% ulcer healing with perianal pain relief. Only 2% developed non-significant headache which was treated with simple analgesics.

Healing rate after diltiazem application was seen in various studies ranging from 80-88%. 4,11 while that seen in this study was 98% in 15days usage only. In contrast to other study showed maximum effect of 28% reduction in the resting anal tone. 12

Studies showed that topical diltiazem was an effective and safe treatment for chronic anal fissure in patients who have failed topical 0.2% GTN and need for sphincterotomy can be reduced upto 70% of cases. ^{13,14} In present study, the efficacy of conservative treatment was raised by counseling of taking sitz bath for soothing effect before easy and proper application of ointment at the site of anal fissure in the anal canal.

It was observed that intense excruciating perianal pain causing hindrance by the patients leading to its no or improper application of ointment therefore no healing of fissure and pain relief.

CONCLUSION

Conservative treatment is the gold standard treatment for anal fissure. Success rate was obtained by 0.2% Glyceryl tri nitrate in 95% cases in 4 weeks while 98% results with calcium channel blocker in 2 weeks and it can be taken as an alternative treatment in resistant cases.

The only emphasis was made on effective counseling of proper application of ointment at the site of anal fissure which was usually failed by the patient due to intense, excruciating peri anal pain and spasmodic sphincter contraction which led them to proceed for surgery.

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