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**ORIGINAL ARTICLE**

**STUDY ON THE OUTCOME OF TOPICAL GLYCERYL TRI NITRATE AND SURGICAL  
LATERAL SPHINCTEROTOMY**

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**ABSTRACT**

**INTRODUCTION:**Anal fissure (fissure-in-ano) is a common very troubling ano-rectal condition because, if acute, the severity of patient discomfort and extent of disability far exceed that which would be expected from a seemingly trivial lesion. The purpose of the study is to compare the effects and outcome in Medical and Surgical management of Fissure in Ano.**MATERIALS AND METHODS:**This study is based on analysis of 80 patients with fissure in ano who underwent treatment in Rajah Muthiah Medical College Hospital, Annamalai University from October 2013 to October 2015 who were divided into two groups of 54 patients, managed by medical and surgical methods. Patients were put on 0.2% glyceryl trinitrate ointment topically over the perianal region twice daily or lateral sphincterotomy. Both groups were advised sitz bath twice daily along with high fiber diet, adequate hydration, antibiotics for 5 days and followed up in out patient department every weekly for one month for complications.**RESULTS:**Males more commonly affected than females. Most common age group was 31-40 yrs, mostly located in the posterior midline.Majority of the patients presented with pain during defecation with Constipation as major predisposing factor. Patients who were treated surgically by open partial lateral anal sphincterotomy had better relief of symptoms.Major complication of Glyceryl trinitrate is headache, which occurred in majority of patients.**CONCLUSION:**The use of 0.2% Glyceryl trinitrate proved to be non-invasive, easy application than the surgical modality, but later was found superior regarding healing of fissure in ano. Successful treatment may come at the expense of high incidence of headaches and recurrence.

**.Keywords:** Fissure in ano, Glyceryl trinitrate , Sphincterotomy

**INTRODUCTION**

Anal fissure (fissure-in-ano) is a common ano-rectal condition. It can be a very troubling condition because, if acute, the severity of patient discomfort and extent of disability far exceed that which would be expected from a seemingly trivial lesion.

Though fissure in ano is a very old entity,controversy exist in the management of fissure in ano.

The purpose of this study is to study

- Etiology and predisposing factors
- Age and sex incidence

- Clinical presentation
- Position of fissure
- Associated features
- Comparative study of topical GTN (0.2%) over Lateral Internal Anal Sphincterotomy.
- Complications associated with medical and surgicalmanagement.

**2.MATERIALS AND METHODS**

This study is based on analysis of 80 patients with fissure in ano who underwent treatment in Rajah Muthiah Medical College Hospital, Annamalai University from October 2013 to October 2015.

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These patients were broadly divided into two groups of 40 patients each who were managed by medical and surgical methods.

For all these patients clinical examinations and routine investigations were done, which also include blood for sugar, urea and serum for creatinine and ECG. Chest X ray was taken for all cases.

Patients who are on medical management are put on 0.2% glyceryl tri nitrate ointment topically over the perianal region twice daily.They were also advised high fiber diet,adequate hydration and antibiotics T.Ciprofloxacin 500 mg BD and T.Metronidazole 500mg TDS for 5 days. All patients were advised sitz bath twice daily.

Patients who are on surgical management were treated by open lateral anal sphincterotomy. Post operatively they were advised twice-daily sitz bath along with high fiber diet and adequate hydration. T.Ciprofloxacin 500mg BD and T.Metronidazole 500mg TDS were given for 5 days.

Patients were observed for expected complications. Patients were discharged on 5th day.They were asked to follow up in out patient department every weekly for one month, once in two weeks for next two months, then monthly for upto a year.

### 3.ANALYSIS AND RESULTS

This study is based on the analysis of 80 patients who were treated for fissure in ano in Rajah Muthiah Medical College Hospital, Annamalai University from October 2013 to October 2015

#### AGE AND SEX DISTRIBUTION

The age and sex distribution of these 80 patients are shown in the table. Out of these, 48 were male and 32 were female. Male to female ratio is approximately 1.5:1. Lowest age of patients in this study is 17. Highest age of patient in this study was 66 years.

The maximum number of patients in the age group was 31-40 years.

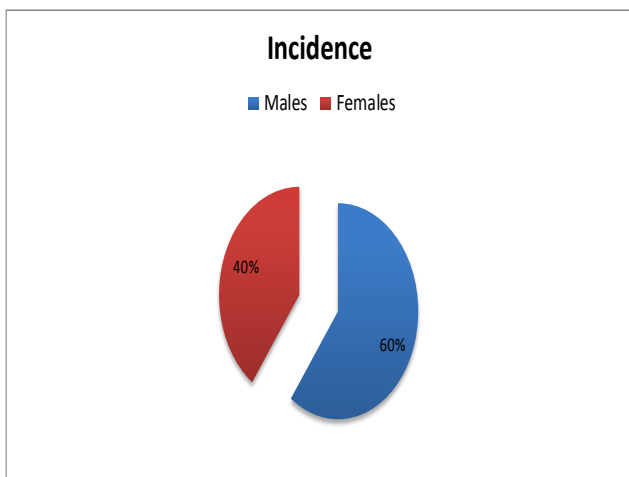


TABLE 1 AGE AND SEX DISTRIBUTION

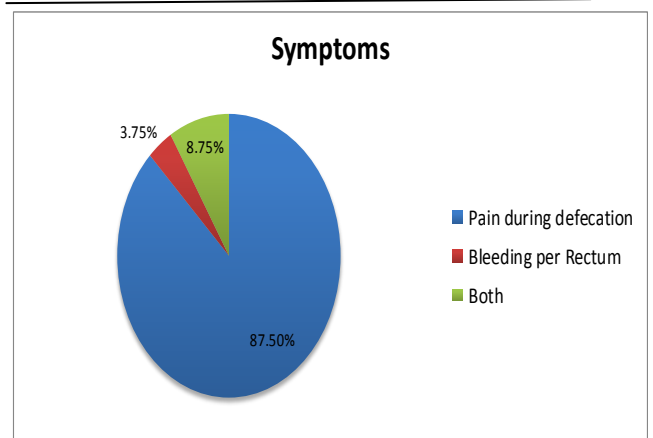
AGE GROUP	MALES	FEMALES	TOTAL	%
11-20	2	2	4	5%
21-30	14	11	25	31.25%
31-40	15	17	32	40%
41-50	13	4	17	21.25%
51-60	3	0	3	3.75%
>60	1	0	1	1.25%

#### SYMPTOMATOLOGY

The symptomatology of these patients is shown in the table.Majority of these patients had history of pain during defecation, bleeding per rectum and swelling over perianal region.

TABLE 2 SYMPTOMATOLOGY

SYMPTOM	NO. OF CASES	%
Pain during defecation	70	87.5%
Bleeding per Rectum	3	3.75%
Both	7	8.75%

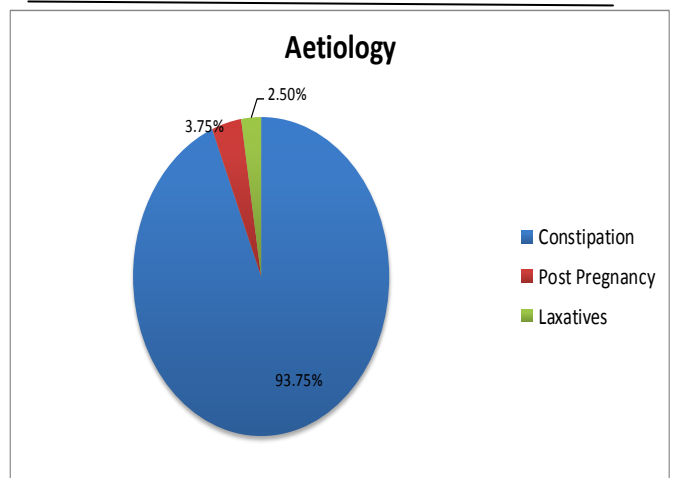


#### PREDISPOSING FACTORS AND AETIOLOGY

Most of these patients had constipation as the major predisposing factor. Other predisposing factors were laxative abuse,post-pregnancy.

TABLE 3 AETIOLOGY AND PREDISPOSING FACTORS

AETIOLOGY	NO. OF CASES	%
Constipation	75	93.75%
Post Pregnancy	3	3.75%
Laxative Abuse	2	2.5%



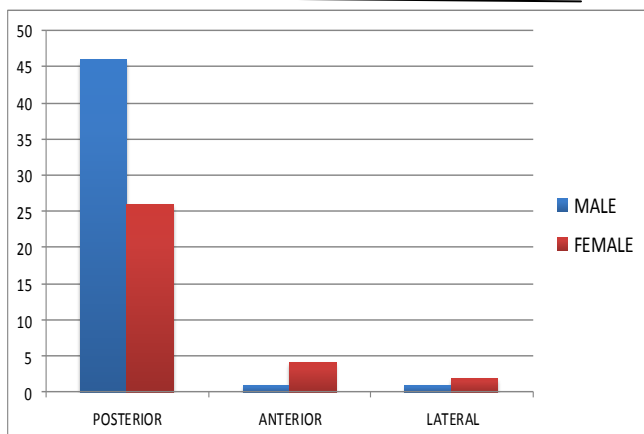
**LOCATION OF FISSURE**

Majority of the patients who were examined by digital rectalexamination had posterior fissure in ano.

Minority of patients had anterior fissure, which is more commonwith females.Lateral fissure was seen in few patients, the details are shown inthe table.

**TABLE 4LOCATION**

LOCATION	MALE	FEMALE	TOTAL
Posterior	46	26	72
Anterior	1	4	5
Lateral	1	2	3

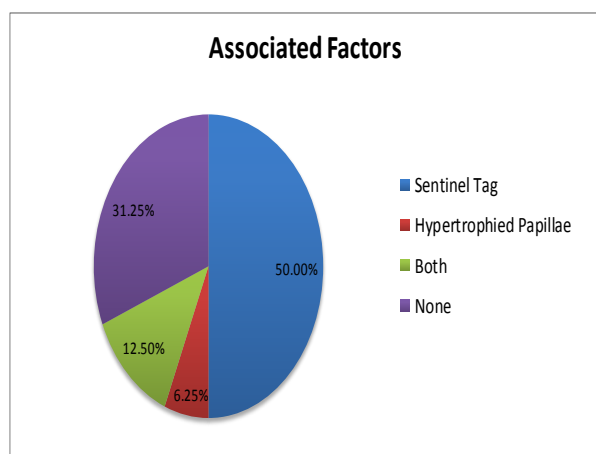


**ASSOCIATED FACTORS**

Majority of patients who had fissure for longer duration hadsentinel skin tag along the lower part of fissure and hypertrophiedpapilla in the upper part.

**TABLE 5**

ASSOCIATED FACTORS	NO. OF CASES	%
Sentinel Tag	40	50%
Hypertrophied Papillae	5	6.25%
Both	10	12.5%
None	25	31.25%



**MANAGEMENT MEDICAL**

40 patients out of 80 were managed by medical treatment. All patients were advised highfiber diet and adequate hydration and oral antibiotics.

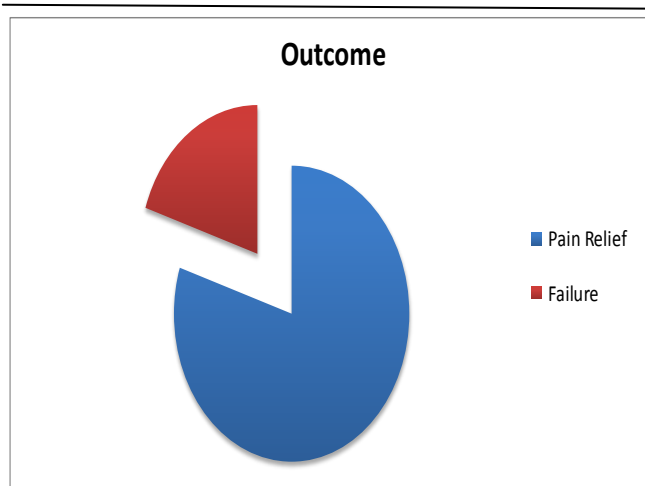
All patients were put on 0.2% Glyceryl trinitrate ointment twicedaily topically after sitz bath. All patients were

followed weekly in outpatient department for one month, once in two weeks for next two months, then monthly for upto a year.

Relief of pain and healing of fissure inferred results. 32 out of 40 patients had relief of symptoms, which accounts to 80% of patients who were treated medically. Other patients had persistent pain and complications like headache.

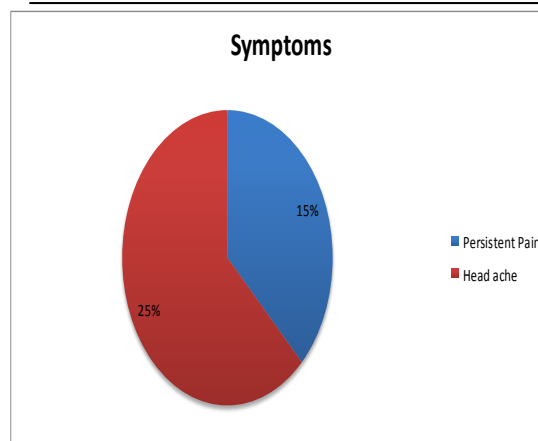
**TABLE 6**

	NO. OF PATIENTS	MALE	FEMALE	%
Relief of Symptoms	32	19	13	80%
Failure	8	5	3	20%



**TABLE 7 COMPLICATIONS OF MEDICAL MANAGEMENT**

COMPLICATIONS	TOTAL CASES	%
Persistent Pain	6	15%
Headache	10	25%



6 of the patients who were managed medically requiredconversion to surgical treatment due to failure of medicalmanagement.

**SURGICAL MANAGEMENT**

40 patients out of 80 were treated by surgical management. All patients were treated by open lateral analsphincterotomy under spinal anesthesia. Duration of surgery wasapproximately twenty minutes.

38 out of 40 patients had relief of pain and healing of

fissure, which corresponds to 95%. Some of the patients had complications as follows.

TABLE 8

Relief of Symptoms	No. of Patients	Male	Female	Total
of 38	38	23	15	95%
Failure	2	1	1	5%

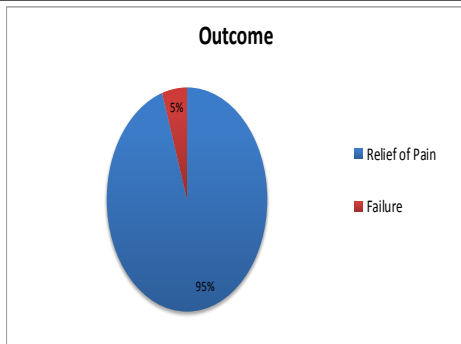
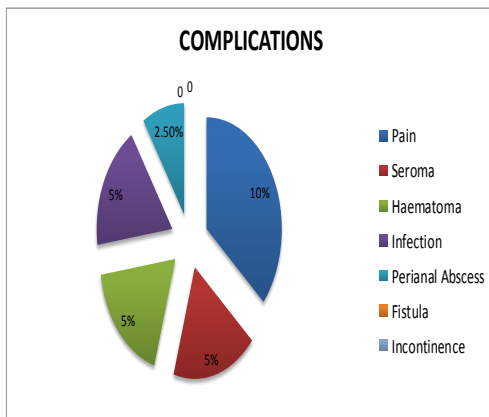


TABLE 9 COMPLICATIONS OF SURGERY

Complications	No. of Patients	Percentage
Pain	4	10%
Seroma	2	5%
Hematoma	2	5%
Infection	2	5%
Perianal Abscess	1	2.5%
Fistula	NIL	NIL
Incontinence	NIL	NIL



Most of the surgical complications subsided within two weeks and patient had complete relief of symptoms.

**4.DISCUSSION**

In this study, males were commonly affected than females. The most common age group were 31-40 yrs. Fissure in ano is rare in children and old age. Majority of the patients presented with pain during defecation. Constipation was the major predisposing factor among all

Cases. Most of the fissures were located in the posterior midline. Most of the patients with fissures of long duration had sentinel skin tag and hypertrophied papilla. Anterior fissures were slightly more common in females. No patients studied had inflammatory bowel disease.

Patients who were treated surgically by open partial lateral anal sphincterotomy had better relief of symptoms. Six patients managed medically by 0.2% GTN did not

have relief of symptoms after one month of treatment, who either discontinued treatment or required conversion to surgery.

Complication of Glyceryl trinitrate is headache, which occurred in majority of patients, made few patients to discontinue the treatment. Patients treated surgically had few complications in the perioperative period, which subsided after two weeks.

**5.CONCLUSION**

The use of 0.2% Glyceryl trinitrate proved to be non-invasive, easy application than the surgical modality, but later was found superior regarding healing of fissure in ano. Successful treatment may come at the expense of high incidence of headaches and recurrence.

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