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CHEMICAL AND SURGICAL SPHINCTEROTOMY IN ACUTE ANAL FISSURE

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ABSTRACT

Objective: To compare the outcome and complications of lateral internal sphincterotomy and GTN cream in the treatment of acute anal fissure.

Material and Methods: The study included all patients presenting to and admitted in Surgical B Unit, Lady Reading Hospital with acute anal fissure. Name, age, sex, other relevant data, history and examination findings and results of investigation were recorded. Patients with chronic anal fissure were excluded from study. Patients were divided in group A (receiving surgical treatment) and group B (receiving topical treatment) with 15 patients in each group. Healing rates and complication rates were recorded.

Results: Total of 30 patients were treated during one year. Patients in group A showed slightly higher healing rates and higher complication rate than patients in group B.

Conclusion: Glyceryl Trinitrate is quite effective in healing anal fissure but lower in healing than the lateral sphincterotomy.

Key Words: Anal fissure, lateral inernal sphincterotomy, GTN.

INTRODUCTION

Anal fissure is an elongated ulcer in the long axis of lower anal canal. It is either acute or chronic. Acute anal fissure is a tear through the skin of the anal margin extending into the anal canal. In acute cases there is little inflammation, induration or oedema of its edges. Usually there is spasm of the anal sphincter muscle. Chronic anal fissure is characterized by inflamed indurated margins and scar tissue sometimes accompanied by a skin tag (sentinel pile)[1,2].

The underlying principle of treating anal fissure is to reduce the internal sphincter tone. This can be achieved by non-surgical and surgical methods. Non-surgical methods include application of local anesthetics and 0.2% glyceryl trinitrate (GTN) cream. Surgical means of reducing sphincter tone include anal dilatation and lateral internal sphincterotomy[3].

Local GTN can reduce the increased anal canal pressure caused by a hypertonic internal anal sphincter and by improving anodermal blood flow. Reversible chemical sphincterotomy produced by local GTN has been successfully used in healing of anal fissure. GTN application avoids the need of surgical intervention and unwanted side effect of incontinence. Subcutaneous lateral internal sphincterotomy is a simple surgical procedure which heals anal fissure rapidly with low recurrence rate. It can also be performed as day case procedure under local anesthesia. However disadvantages of this procedure include; disturbance of continence, bleeding, fistula, abscess, persistent wound pain, cost and time of recovery. Forceful anal dilatation has also been used as a surgical treatment of anal fissure but has become unpopular because of unwanted side effect of incontinence[4].

Present study was carried out in order to evaluate the effectiveness of GTN cream and lateral internal sphincterotomy in the healing of anal fissure and observe the frequency of complications of both modalities of treatment.

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MATERIAL AND METHODS

The interventional study was conducted in Surgical B Unit Lady Reading Hospital, Peshawar, from November 2011 to October 2012 over a period of 1 year. All the patients who presented with acute anal fissure were included in the study. Criteria for chronicity of the condition was duration of condition (more than three weeks) and findings on clinical examination (inflammation, oedema, fibrosis in fissure). Patients with other associated pathologies (hemorrhoids, fistula) were excluded. Patients with chronic anal fissure were also excluded from the study.

Patients' age, sex and address were noted.

Accurate history of their disease was elucidated and physical examination performed. History of co-morbidities was taken and additional findings recorded. Patients were followed up for two months in the post-operative period for assessing outcome.

Patients were randomized by lottery method into group A which included patients treated by surgical sphincterotomy and group B included those treated by chemical therapy.

All the patients were counseled about their conditions. Informed consent was taken from all patients for their management. Patients were divided into two groups; group A and group B. Patients in group A were admitted for surgical treatment in the form of lateral internal sphincterotomy, while patients in group B were managed on outpatient basis and were treated with GTN cream. Follow up of all patients was carried out through OPD. Effectiveness of the treatment was assessed by relief of symptoms and assessing healing by clinical examination. All complaints regarding complications were recorded. Based on a stastical evidence, a value (P) less then 0.05 was taken as significant. All procedures were performed under GA, spinal anesthesia. The minimum duration of medical theraphy was six weeks.

Operative steps: All patients were placed in lloyed davies position and a transvers (radial incision) was given and adequate length of internal sphincter was sectioned and single over line stich was taken with catgut 2/0. Data was collected with the help of a proforma. The analysis was performed using SPSS version 10.

RESULTS

A total of 30 patients were included during the above mentioned 1 years. Out of all the patients presenting with acute anal fissure there were 18 male and 12 female patients. In group A, 15 patients were included and were admitted for surgical treatment. Other 15 patients were kept in group B and were managed as outpatients and treated with GTN cream.

After a period of two months 14 out of 15 patients placed in group A showed complete healing of anal fissure while in group B 12 patients showed complete healing. One patient in group A had persistent symptoms and three patients in group B suffered from persistence of the condition. Regarding complications 4 patients in group A complained of some degree of incontinence, 12 patients complained of post-operative pain and four patients suffered from wound infection. In group B no patient complained of incontinence, there was no infective complication and no pain, however 9 patients complained of itching sensation with application of cream. Three patients had headache which were treated with non steroidal anti inflammatory drugs.

DISCUSSION

The purpose of this study was to assess the effectiveness of lateral internal sphincterotomy as compared to GTN cream and to find out the complication rate of both modalities of treatment in the management of acute anal fissure. In this study, it was

Table 1: Hospital Data + Cost

S. No.	Variables	Sphincteromy n = 15	GTN n = 15	Significance P (value)
01	cost	Rs. 3000	Rs. 300	0.01[t]
02	hospital stay	3 days	00	—
03	healing	95%	70%	0.18[t]
04	days off work	10 days	00	—

T = t-test

Table 2: Complications follwing therapy

S.No.	Complications	Sphincterotomy	GTN	Significance P (Valu)
01	Persistence of symptoms	1 (6.66%)	3 (20%)	0.16[x]
02	Incontinence	4 (26.6%)	00 (0%)	0.051[x]
03	Post operative pain	12 (80%)	00 (0%)	0.001[x]
04	Wound infection	4 (26.6%)	00 (0%)	0.08[x]
05	Headache	00 (0%)	3 (20%)	0.062[x]
06	Itching sensation	00 (0%)	9 (60%)	0.003[x]

X2 = Chi-Square test

found that GTN is quite effective in healing of acute anal fissure. Many authors have studied effectiveness of GTN in the management of anal fissure. Shaukat A. et al noted that topical GTN can be used very successfully to produce chemical sphincterotomy. Although the duration of study and treatment varied widely. It not only helps in relieving symptoms of patient but also promotes healing of fissure[5]. Muhammad OF et al concluded that anal fissure is a common general surgical problem associated with severe anal pain. They noted that with the advent of GTN, hope for patients with anal fissure has decreased. It has revolutionized the non-surgical treatment, as it is effective, safe and economical in terms of cure of both acute and chronic anal fissures[6]. Samad A et al, in their study, observed that the initial use of topical GTN before sphincterotomy against the sphincterotomy as primary treatment modality for chronic anal fissure is cost effective and provides substantial monetary benefit[7]. In our study patients required frequent follow up and the duration of treatment varied from their study.

Qureshi S et al noted that GTN proved to be good first line treatment for most of patients with anal fissure. Small group of patients experience recurrence of symptoms and more over most of them respond to prolong duration of treatment[8]. Hashmat A et al made a conclusion that glyceryl trinitrate preparation is a safe and effective modality for the treatment of fissure in-ano[9]. Memon MR concluded that chemical sphincterotomy is a non-invasive, cost-effective and first line of treatment for anal fissure but lateral internal sphincterotomy was superior, more effective and curative than the chemical sphincterotomy[10]. Khan AM et al concluded that both GTN and sphincterotomy brought about a highly significant, but comparable drop in complication in terms of incontinence of feces and flatus but sphincterotomy is better than GTN since healing in the sphincterotomy group was also earlier than with GTN; although it expensive and requires hospital stay such seen in our study. We suggest a rationale approach to the treatment of acute anal fissure currently would be to institute bulking agents and stool softeners, begin with topical agents such as 0.2% GTN, if patients do not respond within 4 weeks, lateral internal anal sphincterotomy should then be offered. Surgery is also beneficial in cases of relapse or failure to respond to medical therapy[11]. Arslan K et al studied the role of isosorbide dinitrate instead of GTN and concluded that isosorbide dinitrate ointment was reported by all patients to be easy to use. Although its success rate was lower than that of surgery, isosorbide dinitrate can be offered to selected patients with a chronic anal fissure, as it has a low recurrence rate and rare side effects are rare[13]. Tauro LF observed that Lateral sphincterotomy remains effective but should be reserved for the patients who fail to respond to initial chemical sphincterotomy or GTN therapy. GTN is good alternative mode of therapy for patients who refuse surgery and prefer medical line of treatment[14].

Rather SA et al concluded that subcutaneous internal lateral sphincterotomy under local anesthesia is more curative, easy and safe, in the hands of a beginner as well as an experienced surgeon, with highest patient satisfaction, and should be considered as the first line of therapy in both chronic and resistant/recurrent acute anal fissures[16]. Abd Elhady HM et al noted that Lateral internal sphincterotomy is an easy procedure with satisfactory results, minimal complications and a low recurrence rate. Medical sphincterotomy is safe and easy, with mild complications. Its effect is reversible, and relapse is common. Due to limited duration of study and follow up the frequency of relapse and recurrence was not assessed in our study. They recommend that medical sphincterotomy be tried before surgery or in patients who are unable or unwilling to undergo surgery[17].

In a study carried out by Malik et al[21] it was observed that subcutaneous lateral internal sphincterotomy under general anesthesia is the most effective method of management for acute anal fissure regarding post operative complications, loss of work hours and pain relief.

CONCLUSION

It is seen that lateral sphincterotomy is a significantly expensive procedure that requries hospial admission and stay. It has significantly lower pain complaints in the post-operative period and lesser sensation of itching although healing rates are better but the findings were not significantly statistically. To assess incidence of relapse recurance. Further study over larger sample size be performed over larger duration.

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