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Outcome of Lateral Internal Sphincterotomy in the Management of Chronic Fissure in Ano

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Abstract
Objective: to assess the outcome of lateral internal Sphincterotomy in the management of chronic fissure in ano.**Study Design:** Cross sectional Study**Study Place and Duration:** Department of General Surgery Nishtar hospital, Multan, POF Hospital Rawalpindi and Holy Family Hospital Rawalpindi from 12th January 2018 to 15th July 2018.**Material and methods:** A total number of 140 patients were enrolled in the study. Data regarding age, sex, day of operation, duration of postoperative hospital stay, position of the fissure in ano and mean follow up period was measured and recorded in the form of a performed performa. A designed questionnaire was provided to the patients, which contained questions regarding the level of satisfaction, need of further treatment, leakage of gas, fluid or feces and development of symptoms consistent with the symptoms of the previous fissure in ano. Data analysis; the data thus obtained was subjected to statistical analysis using computer software SPSS version 23. Frequency and percentages were calculated for qualitative variables while mean and standard deviation was calculated for quantitative variables.**Results:** Postoperatively, 17 (12.1%) patients complained of painful defecation and 9 (6.4%) patients complained of bleeding and only 12 (8.6%) needed medical treatment for these complaints. Postoperative incontinence to flatus was seen in 11 (7.8%) patients and 8 (5.7%) patients complained of incontinence to flatus and fluids. Only 2 (1.4%) patients complained of incontinence to feces. Overall new incidence of incontinence was seen in 5 (3.6%) of the patients.**Conclusion:** Outcome of lateral internal sphincterotomy are excellent as it is associated with a very low rate of incontinence, bleeding or painful defecation postoperatively and thus it improves the quality of life among the patients of chronic fissure in ano. It can be suggested that lateral internal Sphincterotomy is a safe and effective procedure for chronic fissure in ano.
Keywords: Outcome, Lateral, Internal, Sphincterotomy, Management, Chronic, Fissure, Anal

Introduction

Small tears in the skin of the anus are termed as anal fissures. Anal fissures usually occur in the squamous epithelium of the anal skin that extends up to the anal margin [1]. Fissure in ano are a commonly found disease which in its severe form is extremely unbearable. Usual complaints of fissure in ano by the patients comprise of the sensations of pain and burning during fecal voiding. Bleeding is also a common feature of fissure in ano [2]. Other common symptoms of fissure in ano include itching, muscle spasm at anus, fecal incontinence and skin deformation at anus. The severity can result in sharp pain and itching and patient in result may stop going to washroom [3]. Prevalence of fissure in ano is almost similar among males and females but it occurs more often in younger patients as compared to the elderly [4].

Fissure in ano can be managed with simple conservatory methods such as stool softeners, addition of fiber in diet, increased use of water and Botox injections etc [5]. Usually fissure in ano becomes severe due to persistent constipation or other factors and becomes severely painful resulting in failure of the conservative methods of its treatment. Other modality used for its treatment is glyceryl trinitrate paste [6]. Recommended procedure performed in cases resistant to all above mentioned methods of treatments, is Sphincterotomy [5]. In this procedure, surgical division of internal anal sphincter fibers is performed. Other well known treatment modality for fissure in ano is fissurectomy. In Sphincterotomy internal sphincter is cut from edge of the anus to the level of the anal canal. It is also termed as lateral internal Sphincterotomy. Internal sphincter is incised and sphincter muscle is cut. It is performed up to the level of dentate line. Lateral internal sphincterotomy is considered as the treatment of choice for chronic fissure in ano. It acts by relieving the pressure of the anal sphincter and improving the perfusion of anoderm. This results in excellent pain relief and fast healing of the fissure in ano [7]. Rate of complications as a result of this procedure are reported be very low. Complications associated with this procedure include fecal incontinence and loss of workdays. In this study we are going to assess the probable outcomes of lateral internal Sphincterotomy, so that those factors can be identified which may reduce the efficacy of this procedure and result in complications. Moreover this study can help us in providing facts about the nature of complications and ways to avoid these complications in future. Very few data regarding the outcomes of this procedure for the treatment of fissure in ano has been studied in this region of the world.

Material and Method:

This is a cross sectional study. This study was performed at department of General Surgery Nishtar hospital,

Multan, POF Hospital Rawalpindi and Holy Family Hospital Rawalpindi from 12th January 2018 to 15th July 2018. A total number of 140 patients were enrolled in the study after getting the informed consent. Ethical approval was obtained from the hospital ethics committee. Study performed by G. Garcea et al[8] was used as a reference and to calculate the sample size. Non probability consecutive type of sampling technique was used to collect the sample size. Patients who had laterally located fissure, patients with painless fissures, concurrent fistula, inflammatory bowel disease, hemorrhoids, constipation, metabolic or endocrine disorders like diabetes, alcoholism, psychiatric illness, drug abuse, having anal sex and previous anal surgery were excluded from this study. All the procedures were performed by the surgeon with five year experience under general anesthesia. After approaching the anal sphincter in lithotomy position, a 0.5 cm wide incision was performed on the internal anal sphincter and clips were applied to the sphincter muscle. After lateral sphincterotomy, post operative treatment was administered in the form of stool softeners and analgesia (with the help of cocodamol and diclofenac). Patients were discharged on the same day.

Data regarding age, sex, day of operation, duration of postoperative hospital stay, position of the fissure in ano and mean follow up period was measured and recorded in the form of a performed performa. Details of patients who had undergone previous fissure surgery or treatment with glyceryl trinitrate paste were also recorded. A designed questionnaire was provided to the patients which contained questions regarding the level of satisfaction, need of further treatment, leakage of gas, fluid or feces and development of symptoms consistent with the symptoms of the previous fissure in ano. Follow up was planned at outpatient department after duration of six to eight weeks. Patients were advised to send back the filled questionnaire after 2nd week postoperatively. Data analysis; the data thus obtained was subjected to statistical analysis using computer software SPSS version 23. Frequency and percentages were calculated for qualitative variables while mean and standard deviation was calculated for quantitative variables.

Results:

Total of 140 patients were treated and were given question performa and all of them returned questionnaire. Mean age of the patients was 37.47±4.86 years. Male patients were 73 (52.1%) and female patients were 67 (47.9%). Mean follow up time was 7.3±2.1 weeks before the surgery and 6.4±1.8 weeks after the surgery. Of all the patients, 69 (49.3%) presented with anterior anal fissures, 57 (40.7%) presented with posterior anal fissures and 14 (10%) presented with both anterior as well as posterior anal fissures. One hundred and two (72.9%) patients were discharged after the procedure, twenty eight (20%) stayed for 24 hours and ten patients (7.1%) had to stay for more than 24 hours. Seventeen patients (12.1%) have already had a failed surgery. Complaint of preoperative incontinence was already present in 16 (11.4%) of the patients. Table-I

Postoperatively, 17 (12.1%) patients complained of painful defecation and 9 (6.4%) patients complained of bleeding and only 12 (8.6%) needed medical treatment for these complaints. Postoperative incontinence to flatus was seen in 11 (7.8%) patients and 8 (5.7%) patients complained of incontinence to flatus and fluids. Only 2 (1.4%) patients complained of incontinence to feces. Overall new incidence of incontinence was seen in 5 (3.6%) of the patients. Table-II

Table-I
Demographic, disease and treatment data of the patients

Variable	Number	Percentage
Number of patients treated	140	100
Number of patients returning questionnaire	140	100
Mean age, years	37.47±4.86	
Male patients	73	52.1
Female patients	67	47.9
Mean time of follow up, weeks	7.3±2.1	
Mean time of follow up after surgery, weeks (Mean±S.D)	6.4±1.8	
Position of the fissure		
Anterior	69	49.3
Posterior	57	40.7
Anterior and posterior	14	10.0
In patient stay,		
Day case	102	72.9
24 hours	28	20.0
Over 24 hours	10	7.1
Having 2nd surgery	17	12.1
Preoperative incontinence	16	11.4

Table-II
Postoperative data regarding incontinence and defecation

Variable	Number	Percentage
Painful defecation	17	12.1
Bleeding	9	6.4
Patients needing treatment for painful defecation and bleeding	12	8.6
Incontinence to flatus	11	7.8
Incontinence to fluid and flatus	8	5.7
Incontinence to feces	2	1.4
New incidence of incontinence	5	3.6

Discussion

The results of this study have shown that lateral internal Sphincterotomy is associated with bleeding, painful defecation, incontinence to flatus, fluid and feces and requirement of treatment for these complications. But percentage of these outcomes is very low and it is safe to say that lateral internal Sphincterotomy is an effective mode of treatment for chronic fissure in ano. In multiple studies performed previously, similar results can be found. In a study by Garg P et al it was concluded that lateral internal Sphincterotomy was significantly associated with long term risk of continence disturbance[9]. Similarly another study also suggested that lateral internal Sphincterotomy can lead to new cases of incontinence among the patients of chronic fissure in ano and are difficult to manage in long term cases [10]. Past studies have recommended that surgery for chronic fissure in ano should only be performed in refractory case to the non surgical treatments like Botox injection, stool softeners and glyceryl trinitrate paste etc. Moreover preoperatively and intraoperatively the surgeon should be aware of the extent of the injury to the internal anal sphincter. Also, possibility of the poor outcomes in terms of fecal, flatus or fluid incontinence should be discussed by getting the informed consent. A study has also suggested the use of endoanal ultrasound and endoanal manometry for the cases at higher risk for the development of incontinence and conservative surgery should be performed in such patients[11]. Contrarily a study performed by Rosa G et al suggested that only one of the patients who had undergone lateral internal Sphincterotomy in the study suffered from the incontinence postoperatively[12]. Similarly reports suggest that when lateral internal Sphincterotomy was performed totally subcutaneously the overall outcome was much better and very few complaints of any type of incontinence were seen[13].

Similar results to our study regarding the outcome of lateral internal Sphincterotomy in terms of incontinence have been shown from multiple previous studies[14]. Whereas controlled or calibrated lateral internal Sphincterotomy has been shown to be associated with lesser incidence of incontinence and better outcomes in patients with chronic anal fissures [15]. A study done by Menteş BB et al showed that lateral internal Sphincterotomy resulted in fast and effective healing of the fissures and it was associated with better quality of life in terms of gastrointestinal complications of bleeding or incontinence among patients of chronic anal fissure. Surgical complications reported in that study were very rare (1%) and incontinence rate were also reduced in over a period of 12 months postoperatively [16]. Another study had similar results stating that quality of life was improved 6 months after the surgery among the patients undergoing lateral internal Sphincterotomy for chronic anal fissure[17]. Similarly in a study where open and close type of lateral internal Sphincterotomy were compared, results were almost similar between the two types and rate of surgical complications such as incontinence was low in both groups of patients[18].

Conclusion

Outcome of lateral internal sphincterotomy are excellent as it is associated with a very low rate of incontinence, bleeding or painful defecation postoperatively and thus it improves the quality of life among the patients of chronic fissure in ano. It can be suggested that lateral internal Sphincterotomy is a safe and effective procedure for chronic fissure in ano.

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