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Research Article

COMPARISON OF FREQUENCY OF HEALING IN PATIENTS WITH ACUTE ANAL FISSURE UNDERGOING LATERAL INTERNAL SPHINCTEROTOMY VERSUS MEDICAL MANAGEMENT WITH GTN 0.2% CREAM

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Abstract:

Objective: To compare surgical and medical management of acute anal fissure in term of healing.
Material and methods: This Randomized Controlled Trial was conducted at Department of Surgery, CMH Multan from November 2018 to May 2019. Total 84 with acute anal fissure were selected. Group-A was include those patients who were undergo Lateral internal sphincterotomy and Group-B was include those patients who were be managed with 0.2% GTN cream.

Results: In present study, mean age of the patients was 38.7484 ± 10.37 years, mean age of the patients of Group A was 40.28 ± 11.77 years and mean age of the patients of Group B was 39.77 ± 11.44 years. Patients of group A were managed with lateral internal sphincterotomy and patients of group B were managed with 0.2% GTN cream. After 6 weeks, in group A and B healing was noted in 37 (88.10%) patients and 24 (57.14%) patients respectively. Difference of healing rate between both groups was statistically significant with p value 0.003.

Conclusion: In this study significantly higher healing rate was noted in cases of acute anal fissure underwent lateral internal sphincterotomy as compared to patients managed with GTN cream.

Key words: Anal fissure, lateral internal sphincterotomy, GTN. Surgical management.

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INTRODUCTION:

Anal fissure is a painful condition of the perianal region occurring due to tear in the perianal skin. [1] The most common presentation is due to pain at perianal region during and after defecation. [2] It affects patients of both gender and is particularly common among young adults. [3] In men, 95% of fissures are close to the posterior midline and 5% near anterior midline, whereas in women, about 80% will be located posteriorly and 20% anteriorly. [4]

There may be many treatment options for it. Initial measures are always conservative which include life style changes, more water intake, stool softeners and more fiber intake. [5] Subcutaneous lateral sphincterotomy remains the gold standard for management of chronic anal fissure because of its simplicity, rapid healing and low recurrence rate. [6] However, disadvantages of lateral sphincterotomy including disturbance of continence, bleeding, fistula, abscess, persistent wound pain, cost and time of recovery have led to search for a mode of therapy or pharmacological way to create a temporary or reversible sphincterotomy, one that would lower sphincter pressure only until the fissure had healed. [7] Local GTN can reduce the increased anal canal pressure caused by a hypertonic internal anal sphincter and improve anodermal blood flow, as surgical lateral sphincterotomy.[8] Reversible chemical sphincterotomy produced by local GTN has been used successfully for healing in anal fissure, with minimal side effects and avoiding the need for operative intervention. [9]

Previous studies has been conducted on chronic anal fissure but our study is conducting on acute anal fissure. Usually the patients report inconvincibility and difficulty because of pain in proper application of GTN which leads to poor compliance of GTN application in case of acute anal fissure. So expected results of GTN in optimal period are not conveniencing. That's why in clinical experience and available literature, the outcome of patient with acute fissure in ano with lateral sphincterotomy is more efficient and feasible than GTN.

OPERATIONAL DEFINITION:**Acute anal fissure:**

Anal fissure was labeled as acute one when its symptoms (moderate to severe pain during defecation, bleeding per rectum) is within 3 to 6 weeks of onset and patients were assessed with history and physical examination.

Painful defecation:

Pain was assed with visual analogue scale and severity of pain was measured as follows:

- 0=No pain
- 1-3=Mild pain
- 4-7=Moderate pain
- 8-10=Severe pain.

VISUAL ANALOGUE SCALE:

Visual Analogue Scale is a measurement instrument that tries to measure the amount of pain that a patient feels, which ranges across a continuum from none to an extreme amount of pain.

(No pain) 0 1 2 3 4 5 6 7 8 9 10
(Worst Pain)

Bleeding per rectum:

Patient was given history of bleeding per rectum which streak of fresh blood over stool followed by a few drops of fresh blood.

Healing:

Healing is defined when the Patient is free of symptoms (painful defecation, bleeding per rectum) and fissure is not visualized on physical examination within 6 weeks of treatment.

MATERIAL AND METHODS:

Study Design: Randomized Controlled Trial

Setting and duration: CMH Multan from November 2018 to May 2019

Inclusion Criteria:

- All the patients with acute anal fissure (as per operational definition).
- Both male and female patients.
- Age range from 20-60 years.

Exclusion Criteria:

- Recurrent anal fissure. (assessed on history and physical examination)
- External or internal hemorrhoids. (assessed on history, physical examination and proctoscopy)
- Patients with chronic anal fissure. (assessed on history and physical examination)
- Patients with sentinel pile. (assessed on history and physical examination)
- Patients treated by Hakeems (acids, corrosive). (assessed on history and physical examination)
- Parturition trauma. (assessed on history and physical examination)

Data collection procedure:

Total 84 patients were included in this study after scrutinized by inclusion criteria and after taking written consent from Institutional Review Board. Written consent was taken from every patient. All included patients were offered to pick up a slip from total mixed up slips (half-slips was contain letter "A" and other half-slips contain letter "B") and he/she was placed in that group (Group-A or Group-B according to slip). Group-A was include those patients who were undergo Lateral internal sphincterotomy and Group-B was include those patients who were be managed with 0.2% GTN cream. Patients were followed up fortnightly for 6 weeks in the OPD or earlier in case of any complication. Patients were evaluated by history with regards to symptoms improvements and rectal examination was performed for healing. Outcome was noted in pre-designed proforma. The level of competency of the surgery was a qualified consultant surgeon (having at least 4 years experience as consultant). Demographic data including age, gender were entered into a predesigned proforma.

Data analysis procedure:

The data was entered in SPSS V16 for statistical analysis. Quantitative variable like age and duration of disease was presented as mean \pm SD, while qualitative variable like healing (study variable), gender was presented in frequency and percentages. Chi-square test was applied to compare the frequency of healing in both groups. Stratification was done for age, gender and duration of disease. Post stratification chi-square test was applied to see the level of significance. P-values \leq 0.05 was considered statistically significant.

RESULTS:

In present study, mean age of the patients was 38.7484 ± 10.37 years, mean age of the patients of Group A was 40.28 ± 11.77 years and mean age of the patients of Group B was 39.77 ± 11.44 years. Patients of group

A were managed with lateral internal sphincterotomy and patients of group B were managed with 0.2% GTN cream. After 6 weeks, in group A and B healing was noted in 37 (88.10%) patients and 24 (57.14%) patients respectively. Difference of healing rate between both groups was statistically significant with p value 0.003. (Table 1)

There were 25 male patients in group A and 27 male patients in group B. Healing was observed in 22 (88%) patients of group A and in 16 (59.26%) patients of group B. Difference of healing between the both groups was statistically significant with p value 0.029. Out of 17 female patients of group A, healing was noted in 15 (88.24%) patients. Among the 15 female patients of group B, healing was noted in 8 (53.33%) patients. Difference of healing rate between the both groups was statistically significant with p value 0.05. (Table 2)

Patients were divided into two age groups, age group 20-40 years and age group 41-60 years. In age group 20-40 years, healing was noted in 21 (95.45%) patients of group A and in 13 (61.90%) patients of group B and the difference was significant with p value 0.009. In age group 41-60 years, healing was noted in 16 (80%) patients and 11 (52.38%) patients respectively in group A and B. But the difference of healing between both groups was not significant with p value 0.100. (Table 3)

In 1-3 weeks duration of disease group, healing was noted in 19 (82.16%) patients of group A and in 12 (52.17%) patients of group B. Difference of healing rate between the both groups was statistically significant with p value 0.057. In 4-6 weeks duration of disease group, healing was noted in 18 (94.74%) patients of group A and 12 (63.16%) patients of group B and the difference was statistically significant with p value 0.042. (Table 4)

Table 1: Comparison of frequency of healing between the both groups

Group	Healing		Total	P. Value
	Yes (%)	No (%)		
A (lateral internal sphincterotomy)	37 (88.10%)	5 (11.90%)	42	0.003
B (0.2% GTN cream)	24 (57.14%)	18 (42.86%)	42	

Table 2: Comparison of healing between the both groups for gender

Group	Healing		Total	P. Value
	Yes	No		
Male patients				
A	22 (88%)	3 (12%)	25	0.029
B	16 (59.26%)	11 (40.74%)	27	
Female patients				
A	15 (88.24%)	2 (11.76%)	17	0.05
B	8 (53.33%)	7 (46.67%)	15	

Table 3: Comparison of healing between the both groups for age

Group	Healing		Total	P. Value
	Yes	No		
Age group 20-40 years				
A	21 (95.45%)	1 (4.55%)	22	0.009
B	13 (61.90%)	8 (38.10)	21	
Age group 41-60 years				
A	16 (80%)	4 (20%)	20	0.100
B	11 (52.38%)	10 (47.62%)	21	

Table 4: Comparison of healing between the both groups for duration of disease

Group	Healing		Total	P. Value
	Yes	No		
1-3 weeks				
A	19 (82.61%)	4 (17.39%)	23	0.057
B	12 (52.17%)	11 (47.83%)	23	
4-6 weeks				
A	18 (94.74%)	1 (5.26%)	19	0.042
B	12 (63.16%)	7 (36.84%)	19	

DISCUSSION:

Present study was aimed to compare medical management with surgical management in term of healing rate in cases of acute anal fissure. Total 84 patients were recruited for this study. Patients of group A were underwent lateral internal sphincterotomy and patients of group B were managed with GTN cream. Mean age of the patients was 38.7484 ± 10.37 years, mean age of the patients of Group A was 40.28 ± 11.77 years and mean age of the patients of Group B was 39.77 ± 11.44 years. Patients of group A were managed with lateral internal sphincterotomy and patients of group B were managed with 0.2% GTN cream. After 6 weeks, in group A and B healing was noted in 37 (88.10%) patients and 24 (57.14%) patients respectively. Difference of healing rate between both groups was statistically significant with p value 0.003. Similar healing rate was reported by Manan et al. In their study, healing rate was 95% and 70% respectively in Lateral internal sphincterotomy group and GTN cream group. [10] Memon MR et al [11] 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. They found 100% healing rate in patients managed with Lateral internal sphincterotomy and 30.04% in patients managed with GTN cream. Hashmat A et al [12] made a conclusion that GTN cream is a safe and effective modality for the treatment of fissure in-ano. GTN cream is a good alternative mode of therapy for patients who refuse surgery and prefer medical line of treatment. [10] Rather SA et al [13] concluded that lateral internal 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. Liberty et al, [14] in a comparative trial showed 98% healing of anal fissure with lateral internal sphincterotomy while GTN relieved 56%, with 10% recurrence.

CONCLUSION:

In this study significantly higher healing rate was noted in cases of acute anal fissure underwent lateral internal sphincterotomy as compared to patients managed with GTN cream.

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