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A COMPARATIVE RESEARCH TO DIFFERENTIATE THE USEFULNESS OF GTN CREAM AND LATERAL INTERNAL SPHINCTEROTOMY TO TREAT ACUTE ANAL FISSURES

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Abstract:
Objectives: *The objective of this study was to compare GTN cream (0.2%) and lateral internal sphincterotomy among acute anal fissure patients.*
Material and Methods: *We carried out this comparative research at Mayo Hospital, Lahore in the timeframe of April 208 to November 2018 on a total of 94 acute anal fissure patients. These patients were assessed for the healing process between GTN cream (0.2%) and lateral internal sphincterotomy.*
Results: *Mean age of the patients was (39.74 ± 11.74) years. Acute anal fissure healing was reported as 41 patients in lateral internal sphincterotomy group (87.23%) and 29 in GTN (cream 0.2%) (61.67%) group. There was a statistically significant difference between both the groups (P-Value = 0.008).*
Conclusion: *Our outcomes reveal that healing rate among acute anal fissure patients was better among those patients who were treated with Lateral internal sphincterotomy than GTN cream.*
Keywords: *Lateral Internal Sphincterotomy, Anal Fissure, GTN, Management and Surgical.*

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INTRODUCTION:

Anal fissure refers to the linear ulcer of the anal canal (lower half) [1]. Acute fissures refer to a fissure presented in the timeframe of three to six weeks of symptoms occurrence [2]. Strained ejection of hard stool causes an onset of acute anal fissures; it is also caused by repeated diarrhoea episodes [3]. Among males, five percent fissures are near the posterior midline and about ninety-five percent are near the posterior midline. Among females, twenty percent are anteriorly and eighty percent are posteriorly [4]. Fissures are confirmed through a history of bleeding and pain along with visual inspection and defecation [5]. The principle of anal fissure treatment is to decrease the tone of internal sphincter which can be done through both surgical and non-surgical interventions. Mostly GTN (0.2%) and lateral internal sphincterotomy are applied locally. These are also locally known methods to treat acute anal fissures and such teasing conditions [6]. Both methods carry their respective merits and demerits. Lateral internal sphincterotomy is simple with rapid recovery features along with decreased reoccurrence rate of fissures. However, there are also associated demerits such as bleeding, continence disturbance, abscess, fistula, recovery time, cost and persistent wound pain [7, 8].

We carried out this research on acute anal fissures; whereas, previous studies targeted chronic anal fissure. Normally patients report difficulty and invincibility due to pain with proper GTN application which causes poor GTN compliance for acute anal fissures. Therefore, the expected GTN outcomes in the optimal period are not suitable for the patients. Acute anal fissure outcomes with GTN cream are less efficient than lateral sphincterotomy.

MATERIAL AND METHODS:

We carried out this comparative research at Mayo Hospital, Lahore in the timeframe of April 208 to November 2018 on a total of 94 acute anal fissure patients. These patients were assessed for the healing process between GTN cream (0.2%) and lateral internal sphincterotomy. In the total sample of ninety-four patients, we included both male and female in the age bracket of (20 – 60) years.

We did not include all those patients who were presented with a recurrent anal fissure, internal or external haemorrhoids, chronic anal fissure, Hakeem treated, sentinel pile and parturition trauma. Moderate to severe pain in the course of defecation along with bleeding per rectum in the time bracket of three to six weeks were taken as acute anal fissure cases. Research commenced after institutional review committee permission. Patients were also divided into two groups A & B through random slip selection. Group A & B respectively underwent Lateral internal sphincterotomy and GTN cream (0.2%) treatment. Six weeks fortnightly follow-up was also carried in the OPD. Every patient was reported for history, symptoms, rectal assessment and associated complications along with healing time period. Healing refers to no signs and symptoms such as bleeding per rectum and painful defection with no visual sign of fissure as observed through physical assessment after six weeks of continuous treatment. Data entry and analysis was made on SPSS software (P-Value $\leq$ 0.05).

RESULTS:

Mean age of the patients was (39.74 ± 11.74) years; whereas, for group A & B respective mean age was (39.40 ± 11.64) years and (40.09 ± 11.95) years. Acute anal fissure healing was reported as 41 patients in lateral internal sphincterotomy group (87.23%) and 29 in GTN (cream 0.2%) (61.67%) group. There was a statistically significant difference between both the groups (P-Value = 0.008). Group-wise detailed outcomes are shown in Table – I, II, III & IV.

Table – I: Group-Wise Healing

Healing	Yes		No		Total
	Number	Percentage	Number	Percentage	
Group – I	41	87.23	6	12.77	47
Group – II	29	61.7	18	38.3	47

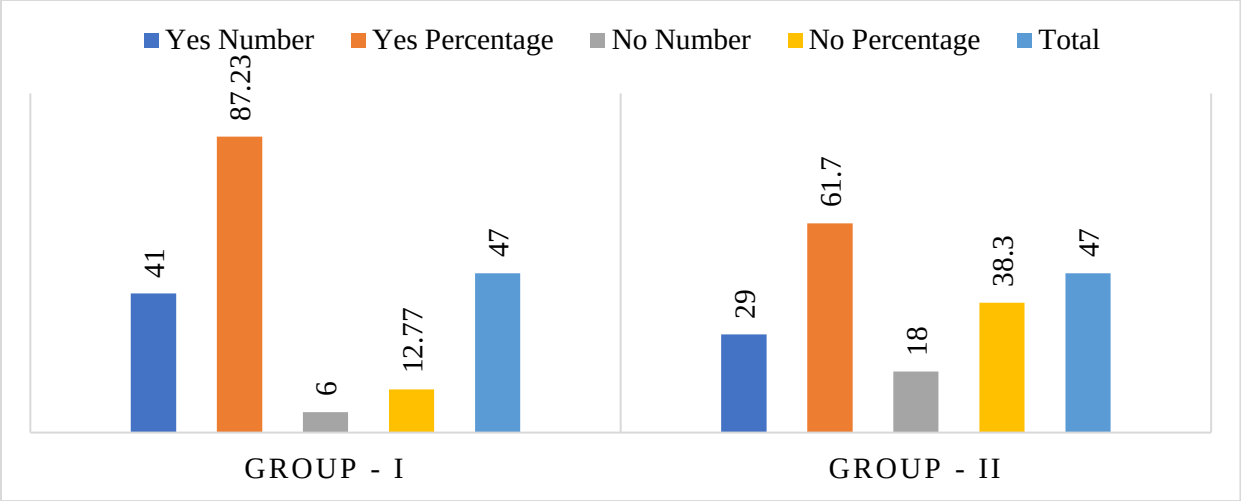


Table – II: Gender Wise Healing of the Disease

Healing (Gender)		Yes		No		Total
		Number	Percentage	Number	Percentage	
Male	Group – I	26	86.67	4	13.33	30
	Group – II	20	64.52	11	35.48	31
Female	Group – I	15	88.24	2	11.76	17
	Group – II	9	56.25	7	43.75	16

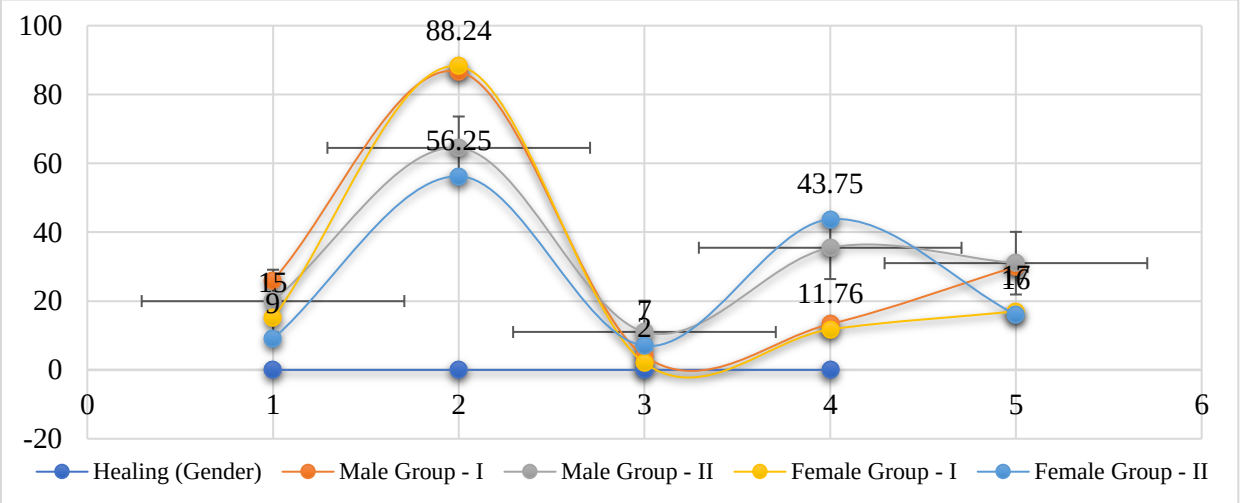


Table – III: Age Wise Healing of the Disease (Years)

Healing (Age)		Yes		No		Total
		Number	Percentage	Number	Percentage	
20 – 40 Years	Group – I	25	92.59	2	7.41	27
	Group – II	16	66.67	8	33.33	24
41 – 60 Years	Group – I	16	80	4	20	20
	Group – II	13	56.52	10	43.48	23

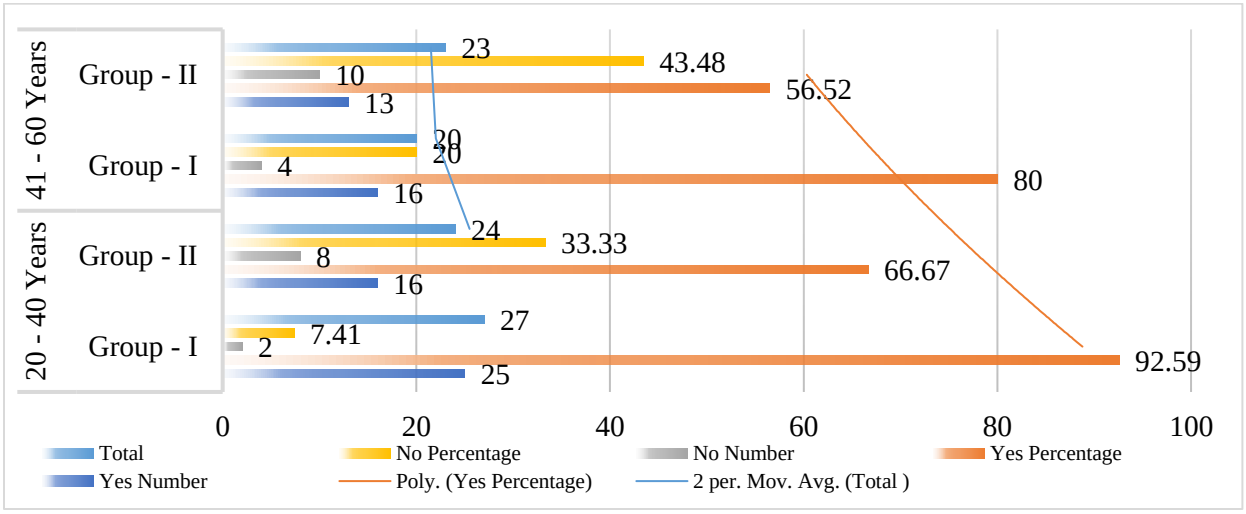
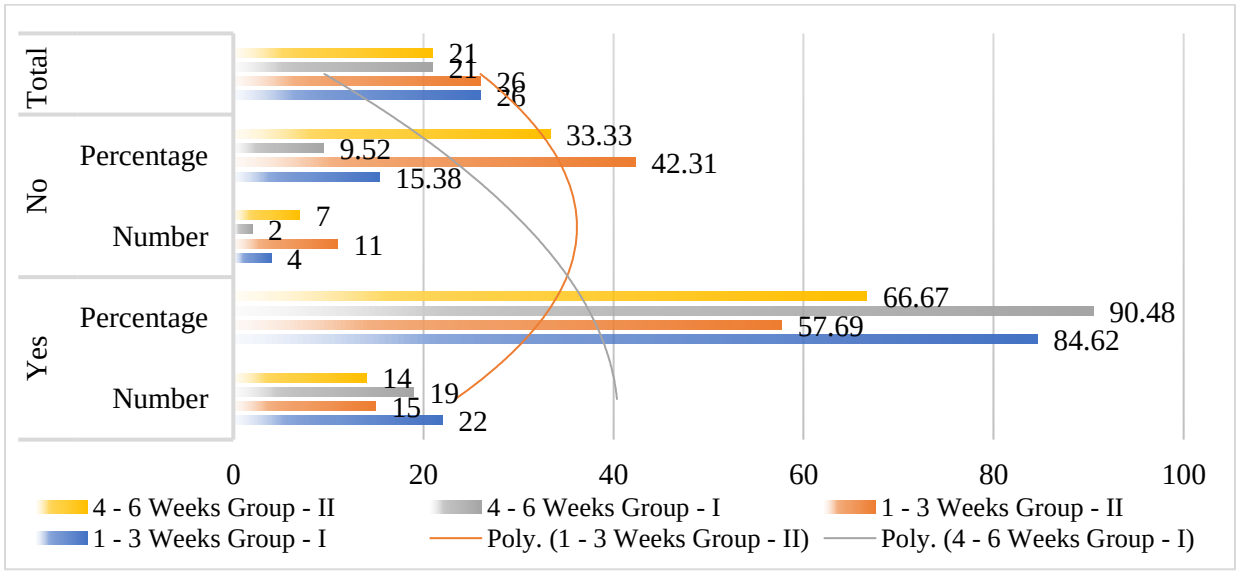


Table – IV: Healing Duration of the Disease (Weeks)

Healing (Disease Duration)		Yes		No		Total
		Number	Percentage	Number	Percentage	
1 – 3 Weeks	Group – I	22	84.62	4	15.38	26
	Group – II	15	57.69	11	42.31	26
4 – 6 Weeks	Group – I	19	90.48	2	9.52	21
	Group – II	14	66.67	7	33.33	21



DISCUSSION:

Anal fissure affects the longer lower axis of the anal canal which can be chronic or acute [5]. An acute anal fissure tears through anal margin skin which extends into the region of the anal canal. Acute cases also present oedema, induration or minute inflammation on the edges. Normally, anal sphincter muscle spasm is also there [9, 10]. The objective of this study was to compare GTN cream (0.2%) and lateral internal sphincterotomy among acute anal fissure patients.

This research included a total of ninety-four acute anal fissure patients which were further subdivided in Group A & B respectively managed with lateral internal sphincterotomy (Group – A) and GTN cream (Group – B). Healing was assessed after four weeks of application of selected management strategy. Group – A & B showed a proportion of healing as 87.23% among lateral internal sphincterotomy and 61.7% among GTN cream treated patients with a significant P-Value (0.008). Manan also assessed the healing process of acute anal fissure patients through both ways and reported the effectiveness of Lateral internal sphincterotomy over GTN cream with the respective healing proportion of 95% and 70% [5]. These outcomes match the outcomes of this particular research.

Memon MR reported cent percent healing efficacy among lateral internal sphincterotomy treated patients; whereas, the healing efficacy of GTN cream was 30.04% [11]. Hashmat reported about the effectiveness and safety of GTN cream for fissure in-ano [12]. GTN cream is a better alternative treatment option with safety and efficacy features after surgical interventions [5].

Another series concludes that in the presence of local anaesthesia the lateral internal sphincterotomy is more effective, safe and easy to perform [13]. It is more curative than other available options under local anaesthesia. Both experiences and beginner surgeon can achieve patient's satisfaction while using it as the first line of treatment for both acute and chronic anal fissures [14].

CONCLUSION:

Our outcomes reveal that healing rate among acute anal fissure patients was better among those patients who were treated with Lateral internal sphincterotomy than GTN cream.

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