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ORIGINAL RESEARCH

Comparative efficacy of nifidipine and lidocaine versus surgical management of anal fissure in a tertiary care hospital in Bundelkhand region

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ABSTRACT
During defecation, anal fissure person has pain which change his personal life. Longitudinal tear of the mucosal lining of the distal anal canal known as anal fissure. It is divided into acute and chronic anal fissure, when any anal fissure persists more then 6 – 8 weeks known as chronic anal fissure. Management of anal fissure has divided into two categories which are medical and surgical. Aim and objective:- to assess the efficacy of tropical ointment of nifedipine with lidocaine and surgical lateral internal sphincterectomy. This was prospective observational study. In which, we divided in two group of patients. First group of patients (category 1) had taken medical management and second group of patients (category 2) had taken surgical management. Each group had contained 30 patients that's why total participants were 60. **Result-** medical management has 3 non cured participants after ten weeks continue treatment but in surgical management has all cured participants after ten weeks. Conclusion -Surgical management was better than medical management for chronic anal fissure.

INTRODUCTION

In outpatient department of surgery, anal fissure is most important cause for which young adult come to visit surgery departments in the entire world.[1]Anal area has many cause of pain but in clinical practice has been most seeing anal fissure for pain.[2,3] During defecation, anal fissure person has pain which change his personal life.[4]

Longitudinal tear of the mucosal lining of the distal anal canal known as anal fissure. It is divided into acute and chronic anal fissure, when any anal fissure persist more then 6 – 8 weeks known as chronic anal fissure.[5]On the basis of etiology anal fissure divided into two types which are primary and secondary. In primary anal fissure etiology direct injury of anal area for i.e. diarrhea, repeated penetration, hard stool.[6] In other hand secondary anal fissure etiology has often found with underlying pathology for i.e. tuberculosis, immunodeficiency syndrome, crohn's disease, anorectal cancer.[7]

Management of anal fissure has divided into two categories which are medical and surgical. In surgical management, approximate 90% of patients have relieved their symptom but 10% patients have presented with incontinence. In other hand medical management, single or combination of medicine (calcium channel blockers, glycerin trinitrate ointment and botulinum toxin injection) use for anal fissure but their side effect like headache due to glycerin trinitrate.[8]Main disadvantage of medical management is high failure.[9]

Such type of study had not been found in bundelkhand region, so we planned this study with aim and objective- to assess the efficacy of tropical ointment of nifedipine with lidocaine and surgical lateral internal sphincterectomy.

MATERIAL AND METHOD

Before the study started, Approval took from institutional ethical committee and IEC number was IEC/RDMC/Cert/27. Study place was medical college

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and two private hospitals in Banda and study duration was fromAugust 2024 to December 2024. Who diagnosed with chronic anal fissure after then a written informed consent form had obtained from same patient; explain all pros and cons of medical management and surgical management and also about this study. Each patient had own choice to choose either medical (ointment of nifedipine with lidocaine) or surgical management.

Inclusion criteria

Who had anal fissure more than 6 weeks with from 21 to 60 years of age

Exclusion criteria

Bleeding problem
Pregnant women
Inflammatory bowel disease
Chron's disease
Fissure with malignancy
Immunocompromised condition
Tuberculosis
Cardiac problem

Exclusion criteria

Patient had acute anal fissure condition.
Age of patient had either less than 20 years or more than 60 years old.

This was prospective observational study. In which, we divided in two group of patients. First group of patients (category 1) had taken medical management and second group of patients (category 2) had taken surgical management. Each group had contained 30 patients that's whytotal participants were 60.

For medical management, category 1 used nifedipine with lidocaine, anal NSAID stool softener and sitz bath. If patient gave satisfactory improvement first 7 to 10 days then those patient follow up for 10 weeks under same treatment.

For surgical management, surgery (sphincterotomy) done on lithotomy position with general or regional anesthesia.Lateral incision was applied on anoderm with the help of anoscope(used for visualization) and in direct vision, internal anal sphincter was divided from distal half. After then follow up of post surgical patient for 10 weeks.

Antibiotics gave to patient for anal fissure surgery before 30 minutes of surgery and injection of non steroidal anti inflammatory drug (NSAID) gave for pain. After surgery, NSAID, antibiotics and stool softener gave at discharge. Follow up of those patients on first, second, fourth, eighth and tenth weeks for fissure healing, pain and clinical assessment. For pain measurement used visual analog scale (Pain score- 0 = no pain, 10 = worst pain).[10] Appropriate statistical test used which mentioned in result with help of MS excel and pivot table.

RESULTS

Table 1

Category		Category 1(%) (medical management)	Category 2 (Surgical managment)	p
Gender	Male	19 (63.3)	23 (76.7)	0.2597
	Female	11 (36.7)	7 (23.3)	
Age groups	≤30	4 (13.3)	7 (23.3)	0.1964
	31-40	9 (30)	11 (36.7)	
	41-50	12 (40)	10 (33.3)	
	51-60	5 (16.7)	2 (6.7)	
Caste	Hindu	17 (56.7)	24 (80)	0.0520
	Muslim	13 (43.3)	6 (20)	

Chi square test applied here

Table 1 depicts, in category 1(medical treatment) and category 2 (surgical treatment) had 63.3% and 76.7% male respectively and for female, 36.7% and 23.3% respectively. Majority of participants were Hindu and age of all participants were belong from 20 to 60 years.Here is no statistical significant difference between category 1 and category 2 with demographic variation.

Table 2:Symptoms of participants before management.

Sr. No.	Category	Category 1(%)	Category 2(%)
1	Bleeding from anal (rectum) region	17 (56.7)	19 (63.3)
2	Pain	13 (43.3)	13 (43.3)
3	Constipation	6 (20)	5 (16.7)
4	Perianal discharge	1 (3.3)	3 (10)
5	Itching	3 (10)	2(6.6)

Table 2 shows that participants had symptoms before the management which were following with decreasing pattern of symptoms in participants, most common symptom for both category were bleeding from rectum after then pain followed by constipation, itching and perianal discharge.

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Table 3: Symptoms of participants after management of two weeks.

Sr. No.	Category	Category 1(%)	Category 2(%)
1	Bleeding	4(13.3)	0(0)
2	Pain	2(6.7)	0(0)
3	Constipation	2(6.7)	0(0)
4	Perianal discharge	1(3.3)	0(0)
5	Itching	1(3.3)	0(0)

After medical management of two weeks, participants presented with bleeding, pain, constipation, perianal discharge and itching. Most common complaint was bleeding which was 13.3% (4 participants) and least common complaint was perianal discharge and itching which were 3.3% for both (1 participants), Table 3.

Table 4: Healing pattern of participants

Sr. No.	Weeks	Category 1		Category 2	
		Inadequate	Adequate	Inadequate	Adequate
1	First	30	0	25	5
2	Second	27	3	12	13
3	Forth	19	8	5	7
4	Eighth	3	16	0	5
5	Tenth	3	0	-	-

Table 4 shows that category 1 (medical management) has 3 non cured participants after ten weeks continue treatment but in category 2 (surgical management) has all cured participantsafter ten weeks.

Table 5: Side effects after medical and surgical management

Sr. No.	Side effects	Category 1	Category 2
1	Gas incontinence	0	1
2	Anal incontinence	0	0
3	Perianal abscess	1	0
4	Headache	1	0
5	Nausea	0	0

One case of gas incontinence found in category 2 in other hand one case of perianal abscess and headache found in category 1

DISCUSSION

Main purpose of this studyassessed medical management and surgical management and which was better(either both equal outcome or not). Overall 90 % case of acute anal fissure cases will heal by own self or some simple measure will be taking for heal etc. fibrous diet, stool softener, increase water intake, topical steroidand topical local anesthesia.[11]

Many types of surgeries available for chronic anal fissure which are mucosal advancement flaps, anal stretch, internal sphincterotomy and fissurectomy etc.[12] but in this study used lateralinternal sphincterotomy because it's widely accepted surgery.

This study had total 60 participants (30 participants for medical management and 30 participants for surgical management) which was prospective observational study. Current study has no statistical significant difference between categories and socio-demographic factors. Similar results found byAcer et al.[13] 550 participants were followed by Acer et al.

Before medical management start, 43.3% participants had pain. 6.7% participants had complained of pain after two weeks of medical management but no pain complain in surgical management. Agrwal P et al found, "84% participants had no pain after 4 weeks of medical management but 16% had pain after 4 weeks of medical management.[14]

In this study, participants were not presenting any pain complainafter two weeks of surgical management. Similar result found by Agrwal P et al (100% participants were not presenting pain after four weeks of surgical management) but Motie et al (2% participants were presenting pain after surgical management).[14,11]

This study had no anal incontinence and similar result found by Agrwal P et al.

CONCLUSION

Surgical management was better than medical management because healing defect and pain were not presenting after surgical management but presenting with medical management.

Limitation –Sample size
Conflict of interest - no

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