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RESEARCH ARTICLE

A PROSPECTIVE STUDY OF ACUTE FISSURE-IN-ANO IN RELATION TO CLINICAL DIAGNOSIS AND MANAGEMENT

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Abstract

An anal fissure is a longitudinal ulcerated area in the vertical axis of the squamous lining of the anal canal between the anal verge and the dentate line, noted in 10–15% of proctological patients. Present study was aimed to study, acute fissure-in-ano in relation to clinical diagnosis and management at a tertiary hospital. Present study was hospital based prospective observational study, conducted in patients between 18-70 years of age (including males & females), with symptoms of pain on defecation, bright red bleeding, constipation (i.e. suspected cases of acute anal-fissure). Among 100 subjects, 47 % subjects were between aged 31-40 years. mean age of study subjects was 36.44 ± 3.2 years. Out of 100 patients,51% were males and 49% were females. Posterior fissure in ano was present in 90% of males and anterior fissure was present in 20% females. Also concomitant fissures were present in 6% females. 75% Patients (70% male and 80% female) were pain-free after 2 weeks of medical line of management. 84% Patients (84% males and females each) were pain-free after 4 weeks of medical line of management. 91% Patients (92% males and 90% females) were pain-free after 6 weeks of medical line of management. Out of 100 patients, 4% (males and females) undergone surgery (lateral internal sphincterotomy) after 8 weeks of medical line of management and relieved of symptoms. Acute fissure-in-ano, can be treated with medical (conservative) line of management, which is effective, cheaper and feasible way of treatment. Those who are still symptomatic can undergo surgery (lateral internal sphincterotomy).

Introduction:-

Proctologic diseases are as old as mankind itself and very human. They include a diverse group of pathologic disorders that generate significant patient discomfort.[1] About 30–40% of the population suffers from proctologic pathologies at least once in their lives. Anal fissure is present in about 10–15% of proctological patients.[2]

An anal fissure is a longitudinal ulcerated area in the vertical axis of the squamous lining of the anal canal between the anal verge and the dentate line.[3] Anal fissure is one of the commonest causes of a severe anal pain, but its exact

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incidence is not known.[4] Constipation and passage of hard stools is often the cause of an anal fissure, although diarrhoea can also attribute to its development.[5]

Anal fissure occurs most frequently in young adults and affects both genders equally. The great majority of fissures occur in the posterior midline, also anterior midline fissures are seen in 25% of affected women and 8% of affected men. About 3% of patients have both anterior and posterior fissures(concomitant).[6]

Therapy focuses on breaking the cycle of pain, spasm, and ischemia thought to be responsible for the development of fissure in ano. First-line therapy to minimize anal trauma includes high water intake, bulk agents, stool softeners, and warm sitz baths.[7] Lateral internal sphincterotomy is now considered the treatment of choice for anal fissure.[8] But, the incidence of incontinence to faeces or flatus after this procedure ranges from 0% to 35%.[7] Present study was aimed to study, acute fissure-in-ano in relation to clinical diagnosis and management at a tertiary hospital.

Material And Methods:-

Present study was hospital based prospective observational study, conducted in department of general surgery, at XXX medical college & hospital, XXX, India. Study duration was of 2 years (July 2019 to June 2021). Study was approved by institutional ethical committee.

Inclusion criteria

All the patients between 18-70 years of age (including males & females), coming to OPD and wards with symptoms of pain on defecation, bright red bleeding, constipation (i.e. suspected cases of acute anal-fissure), willing to participate & follow-up in study.

Exclusion criteria

The patients of carcinoma rectum, anorectal ulceration due to venereal diseases, systemic causes like inflammatory bowel disease, tubercular fugax, foreign body, etc.

Patients not willing to participate in study.

Present study was conducted to study clinical diagnosis and management of acute fissure-in-ano. Study was explained & a written consent was taken from patients for participation & follow up. After obtaining detailed history (for complaints, age, sex and co-morbidities like diabetes, obesity, COPD, etc.), complete physical examination was done and appropriate investigations were conducted. Primary diagnosis was clinical, if required additional investigations were done. Chest X-ray and blood parameters were done as necessary. Trans-rectal ultrasonography, Magnetic Resonance Imaging fistulography was performed in selected patients.

After complete evaluation, mode of management was decided. All patients received medical management initially, failure/recurrence cases required surgical intervention. Patients requiring surgical intervention were operated under strict aseptic precautions while practicing meticulous technique. All the resected specimens were sent for histopathological analysis.

Data was collected in Microsoft excel sheet & analysis was done using descriptive statistics.

Results:-

In present study 100 subjects were participated. 47 % subjects were between aged 31-40 years followed by 21-30 years age group subjects (23 %). Mean age of study subjects was 36.44 ± 3.2 years. Out of 100 patients,51% were males and 49% were females.

Table no.1:- Distribution of Subjects based on Age & gender.

Age group(Years)	Total(N)	Percentage(%)
18-20	3	3%
21-30	23	23%
31-40	47	47%
41-50	21	21%
51-60	5	5%
61-70	1	1%

Gender		
Male	51	51%
Female	49	49%

All patients i.e.100% (males and females) were having pain while defecation as their presenting complaint. Constipation was presenting symptom in 75% (males and females).Pruritus ani was present in 52% cases. Also,25% (males and females) were having bleeding while defecation.

Table no.2:- Presenting symptom.

Complaints	Males-N(%)	Females-N(%)
Pain while defecation	51(100%)	49(100%)
Bleeding while defecation	13(25%)	12(25%)
Constipation	38(75%)	37(75%)
Pruritus ani	25(49%)	26(53%)
Position of fissure	Males-N(%)	Females-N(%)
Posterior	46(90%)	40(80%)
Anterior	5(10%)	9(20%)
Concomitant	0	3(6%)

Posterior fissure in ano was present in 90% of males and anterior fissure was present in 20% females. Also concomitant fissures were present in 6% females.

Table no.3:- Position of fissure.

Position of fissure	Males-N(%)	Females-N(%)
Posterior	46(90%)	40(80%)
Anterior	5(10%)	9(20%)
Concomitant	0	3(6%)

75% Patients (70% male and 80% female) were pain-free after 2 weeks of medical line of management. 84% Patients (84% males and females each) were pain-free after 4 weeks of medical line of management. 91% Patients (92% males and 90% females) were pain-free after 6 weeks of medical line of management. Out of 100 patients, 4% (males and females) undergone surgery (lateral internal sphincterotomy) after 8 weeks of medical line of management and relieved of symptoms.

Table no.4:- Assessment based on pain relief & management till 8 weeks.

Pain relief	Males-N(%)	Females-N(%)	Total-N(%)
At 2 weeks	36(70%)	39(80%)	75(75%)
At 4 weeks	42(82%)	42(86%)	84(84%)
At 6 weeks	46(90%)	45(92%)	91(91%)
At 8 weeks	49(96%)	47(96%)	96(96%)
Surgery			
Yes	2(4%)	2(4%)	4(4%)

Discussion:-

Acute fissure-in-ano is one of the commonest anorectal presentations which causes considerable morbidity and affects the patient's quality of life to a great extent. This warrants prompt treatment of the condition with appropriate methods. The great majority of fissures occur in the posterior midline, although anterior midline fissures are seen in 25% of affected women and 8% of affected men.[9] about 3% of patients have both anterior and posterior fissures.

Anal fissure is probably secondary to over-stretching of the anoderm during the passage of a large or hard stool. W.E. Miles had postulated passage of a scybalum over that part of the anal canal, which was relatively immobile, i.e. the part situated over the so called Pecten Band, developed as a result of constipation, just above Hilton's Line.[10]

It has been generally accepted that hypertonicity of the internal anal sphincter is contributory in the pathogenesis of anal fissure. This opinion has been supported by a highly successful surgical treatment for anal fissure- lateral internal sphincterotomy which generally results in a reduction of resting anal pressure.[11] The anal spasm is the defense mechanism to prevent further stretching of the anal canal and worsening of the tear. A vicious cycle continues whereby the anal spasm exacerbates the ischaemia and prevents the fissure from healing, which in turn continues in the anal spasm to prevent further tearing. Once this cycle sets in, the likelihood of spontaneous healing decreases and the edges of the fissures become more fibrosed, causing to a chronic fissure.[12]

In our study, we found that average age incidence was 36 years and the patients in the age of 31-40 years were the commonest sufferers. Anal fissure produces pain out of proportion to its size and thus causes much discomfort. Thus the loss of so many manhours in the working age group of the population underlines the need of early and definitive treatment of this common surgical problem. Out of 100 patients studied, 51 were males (51%) and 49 were female (49%) patients. James G. Petros et al.,[13] have found that fissures were equally common in males and females and that in both genders most fissures was located posteriorly.

Pain was the most common symptom (100%), often associated with followed by Constipation (75%),bleeding rectally (75%) and Pruritus-ani (51%).While studying clinical presentations of anal fissures James G. Petros et al.,[13] have found that pain, bleeding and pruritus were the commonest symptoms. Patients who presented with bleeding were significantly younger than those without bleeding. In this study, bleeding most commonly seen in the age group of 31 to 40 years (47%). The causes found out were hard stools (most common), constipation, vaginal delivery, decreased water intake.

The rationale of treating this condition lies in reducing the internal anal sphincter tone, relieving the spasm and thereby improving the circulation. The conservative management of anal fissure was designed to break vicious cycle of painful stools, injury to anal canal and again painful stools. This management included stool softeners, high fiber diet, water intake, Sitz baths and Lignocaine (1.5%) with nifedipine (0.3%) ointment to relax the sphincter. This treatment continued for 8 weeks. Assessment of patients done at 2 weekly intervals till 8 weeks. After 2 weeks of medical line of management, 36 males (70%) and 39 females (80%) patients were pain-free.

6 Male(12%) and 3 female(6%) patients were pain-free after 4 weeks of medical line of treatment.4 Males(8%) and 3 females(6%) and 3 males(6%) and 2 females(4%) patients were still having pain after 6 and 8 weeks of treatment respectively. All patients [51 males (100%) and 49 females (100%) =100 total (100%)] were free from rectal bleeding and constipation after 2 weeks of medical line of treatment till 8 weeks. Those patients who were having pain(2 males[4%] and 2 females[4%]=total 4 cases[4%]) underwent surgery i.e. lateral internal sphincterotomy after 8 weeks of conservative management. These patients were symptom-free after 2 weeks at follow-up.

The operative management of anal fissure was aimed to cause permanent functional changes in the internal sphincter. It has been shown that the resting tone of internal anal sphincter is higher in patients of chronic anal fissure. The computerised profiles of anal canal with the aid of manometry[14] has shown that operative intervention significantly reduces the tone of internal anal sphincter, but still remains higher than normal making such persons prone to develop fissure. Xynos et al.,[15] observed that increased anal sphincter activity was a major factor in anal fissure pathogenesis, and that successful internal sphincterotomy helps to heal fissure and improves the manometric performance of sphincter.

Thus anal fissure was associated with elevated resting anal pressure and therapy was directed at reducing anal sphincter tone. Sphincterotomy was initiated with the idea of decreasing the spasm of pecten band which was shown to be nothing but internal sphincter. Notaras.[16,17] developed the technique of lateral subcutaneous sphincterotomy. It was simpler and quick procedure which produced a small wound. Postoperative care was minimal and chances of postoperative wound infection were negligible. There was no recurrence of anal fissure observed in this study group within the time frame of this study.

Conclusion:-

Acute fissure-in-ano, which is common painful condition of both genders, can be treated with medical (conservative) line of management in majority of cases. This is also very effective, cheaper and feasible way of treatment. Those who are still symptomatic can undergo surgery (lateral internal sphincterotomy).We also recommend further large scale prospective studies to understand relation of diagnosis and management of acute

fissure-in-ano.

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