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Anal Fissure Cases in Children at Outpatient Clinic in Karbala

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Abstract

Objective: Anal fissures are often accompanied by patients' refusal to defecate, despite diarrhoea, due to severe pain in the anus. These health problems are particularly evident in patients with anal canal obstruction. However, the functional disease that causes anal fissures is not limited to persistent diarrhoea or constipation. Our current research aims to achieve clinical significance in the treatment of the disease and to reduce the prevalence of diseases associated with anal fissures in the age groups mentioned for pediatric patients who suffer from a variety of clinical manifestations.

Methods: Data related to 250 cases of anal fissure disease were collected for children aged between 1 month and 10 years in Karbala Pediatric Clinics for both sexes for the period from 1-3-2023 to 7-5-2024. There were various causes related to anal fissures in children, distributed between 100 cases for males and 150 cases for females. Treated by Diet, toilet training, lactulose syrup, lidocaine gel, + Laximed Suppositories 240 cases, while treated by anal dilatation under general Anaesthesia 10 cases.

Results: Number of patients distributed according to age from 1 month to 10 years old. Data documented the following: (60 cases were from 1 to 6 months), (95 cases were from 6 months – 1 year), (75 cases were from 1 – 3 years), and (20 cases were from 3 – 10 years).

Conclusions: An anal fissure in children is a common disease that needs to be treated surgically or non-surgically, as it is accompanied by other related diseases that may lead to other complications that worsen in the future if neglected. Therefore, containing and controlling the disease is essential through an early visit to a specialist doctor, as it is possible to treat the disease and follow the specialist doctor's instructions until full recovery.

Introduction

Anal fissures are prevalent and typically manifest in preschool-aged children. An anal fissure is precipitated by the passage of hardened faeces, which results in the laceration of the sensitive anal mucosa. The presence of a tear results in significant discomfort during defecation, which may cause the child to cry out in agony, and blood may be observed on the faeces or toilet paper. It generally results in anal discomfort during defecation, which may manifest with or without the presence of rectal haemorrhage. Anal fissures do not arise spontaneously; rather, they are categorized based on their underlying causative factors. Prolonged diarrhoea, or the presence of firm stools, which may lead to irritation and trauma of the anal canal, is the principal and most prevalent etiological factor contributing to the development of anal fissures. Anal fissures impact individuals across all age demographics, exhibiting an equal prevalence among both genders [1]. The anal canal measures approximately 5 centimetres in length. Histologically, the proximal end of the anal canal represents the juncture where the columnar epithelium of the rectum transitions to a transitional epithelium. Anal fissures are generally induced by straining of the anal mucosa. In older adolescents, this phenomenon may occur because of various factors, including constipation, the expulsion of hard and/or large stools, straining during defecation, protracted diarrhoea, or inflammatory bowel disorders, such as Crohn's disease [2]. An anal fissure is a tear in the membrane of the lower rectum (anus). It may induce sensations of itching and discomfort. There may be vibrant red blood on the toilet paper after your child wipes. A fissure may develop if your infant experiences constipation and attempts to expel a large, hardened stool. It may also occur if your infant fails to relax the anal sphincter muscles during a bowel movement. Most anal fissures typically resolve with home treatment within a span of several days to weeks. Should your infant experience an anal fissure that requires an extended healing period, your physician may prescribe medication. In exceptional circumstances, surgical intervention may be required.

The primary symptoms of an anal fissure include discomfort, which may occur with or without accompanying rectal bleeding. Diagnosis is typically prompted by the presence of bleeding or discomfort related to the act of defecation. The healthcare provider is typically able to diagnose an anal fissure through an assessment of the patient's medical history in conjunction with a rectal or visual examination. Complications associated with anal fissures may arise due to recurrence, failure to resolve, or because of the treatments administered. Individuals with a history of anal fissures exhibit an elevated risk of experiencing subsequent anal fissures. The primary complication associated with acute fissures is their failure to resolve. An anal fissure that fails to resolve within a few weeks is classified as chronic. These anal fissures progress to greater depths and develop into ulcers [3].

Upon the emergence of anal fissures, patients frequently refrain from defecation, even in the presence of diarrhoea, due to significant anal discomfort, especially among those suffering from constipation. A detrimental cycle frequently commences between the experience of discomfort and the avoidance of stool elimination. AFs are classified into 2 groups: acute (superficial) and chronic fissure (complicated). Anal discomfort may trigger a spasm of the internal anal sphincter, resulting in elevated anal pressure. This phenomenon subsequently diminishes anodermal perfusion and exacerbates ischemia in the anal fissure as the condition advances [4]. There are no associated hazards with the prolonged use of laxatives. Should your child have experienced gastrointestinal issues for six months or longer, it is likely that a similar timeframe will be required to resolve these issues entirely. When the colon is distended with hardened faeces, it becomes excessively stretched. As it returns to its normal girth, its

efficiency will increase, thereby diminishing the necessity for laxatives. Nevertheless, the cessation of treatment cannot be executed abruptly. The most detrimental outcome would be the attainment of the appropriate laxative dosage, resulting in your child having daily bowel movements, followed by an abrupt cessation of treatment. This would inevitably lead to a reversion to the initial state of constipation.

Patients and methods

- 250 cases of anal fissure in Karbala pediatric outpatient clinic.
- Gender of patients: 150 male, 100 female. Periodic time from (1\3\2023) to (7\5\2024).
- Associated with constipation in 240 cases.
- Associated with frequent bowel motion in 10 cases.
- Associated Pain 170 cases.
- Associated per rectal Bleeding 135 cases.
- Site of fissure posterior 225 cases.
- Site of fissure Anterior 15 cases.
- Site of fissure Anterior and posterior 10 cases.
- Treated by Diet +toilet training + lactulose syrup + lidocaine gel + Laximed Suppositories 240 cases.
- Treated by anal dilatation under general Anaesthesia 10 cases.

Results

Table no.1: The total number of patients as age.

Number of patients as age (Age groups 0 – 10 years old)	
1 – 6 months	60 cases
6 month – 1 year	95 cases
1 – 3 years	75 cases
3 – 10 years	20 cases

Table no.1: The total number of patients as age.

Tests of Normality							
	C	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
N	1.00	.219	4	.	.965	4	.813
a. Lilliefors Significance Correction							

Discussion

An anal fissure is defined as a minor laceration in the delicate, damp membrane that constitutes the lining of the anus. The anus is the terminal orifice of the digestive tract through which faecal matter is expelled from the body. The predominant etiological factors contributing to the development of an anal fissure encompass constipation, as well as the exertion associated with the passage of hard or oversized faeces during defecation. Anal fissures generally result in discomfort and haemorrhage during defecation. You may also encounter contractions in the circular muscle located at the terminus of the rectum, known as the anal sphincter. Fissures occur because the anal mucosa is stretched beyond its normal limits. This frequently occurs when faeces are hardened as a result of constipation. Upon the occurrence of the rupture, it results in recurrent injury.

In this study, the highest number of anal fissures in children is those that are associated with constipation because it is effect directly and leads to complications. While the cases of anal fissures associated with bowel movements are the least in number among the total number of cases we are studying, they do not have a direct effect on the anal canal.

Anal fissures occur in different parts and not in a specific location. They may occur in the posterior side of the anal canal, which had the highest incidence in our study. In contrast, they occurred in the anterior side of the anal canal and the anterior and posterior sides of the anal canal together. Endo-anal ultrasound studies have also demonstrated significant injury to the internal anal sphincter following anal dilatation [5]. Since constipation has a direct relationship with anal fissures, their effect on the posterior side is faster than on the other sides, as shown in Figure no.1.

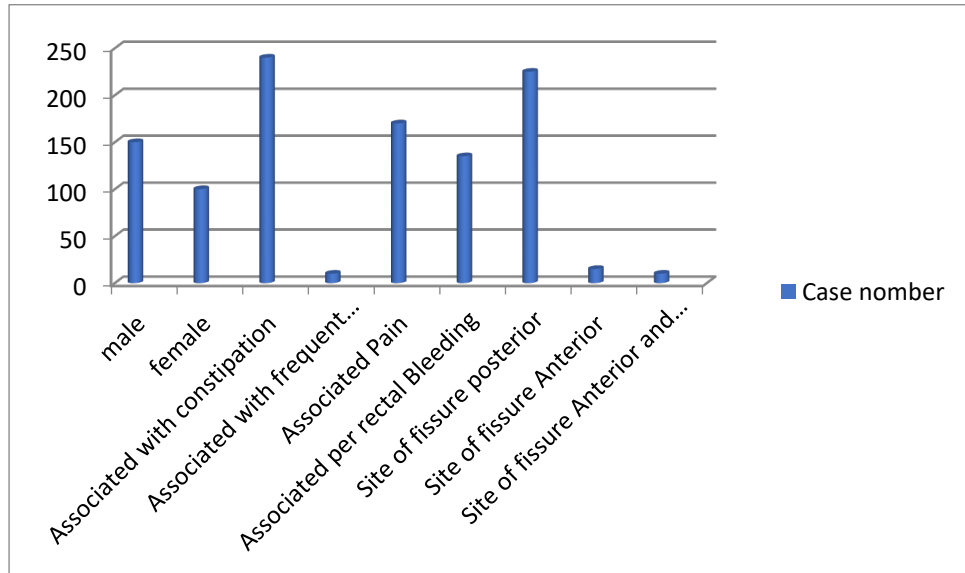


Figure no. 1: Illustrates the many types of anal fissure cases.

The resolution of 240 cases was achieved through the implementation of dietary modifications, toilet training, lactulose syrup, lidocaine gel, and Laximed suppositories, thereby effectively managing most anal fissure instances. A total of ten cases were documented in which anal dilatation was performed under general anaesthesia. It is important to highlight that our study, which encompassed anal fissures,

demonstrates a normal distribution of all cases in relation to the patients' ages and quantities, as illustrated in Figure 2. It has been proposed that minors experiencing constipation and anxiety regarding pain during defecation may be unable to attain independent bowel evacuation, which could subsequently affect bladder function [6].

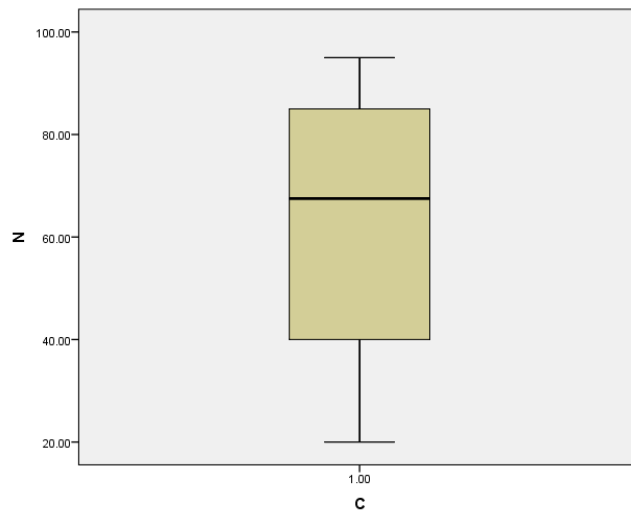


Figure no. 2: Illustrate the normality distribution of anal fissure cases.

The prevalence of anal fissure cases among children was highest in the age group of 6 months to 1 year, followed by the cohort aged 1 to 3 years. Subsequently, the incidence was observed in the group ranging from 1 to 6 months, while the lowest occurrence was noted in the age group of 3 to 10 years, as illustrated in Table 1 and Figure 3. Given that the normality test value presented in Table 2 exceeds 0.05, we can conclude that there are no statistically significant differences in the quantity and diversity of anal fissure cases, indicating that the distribution of these cases is normal.

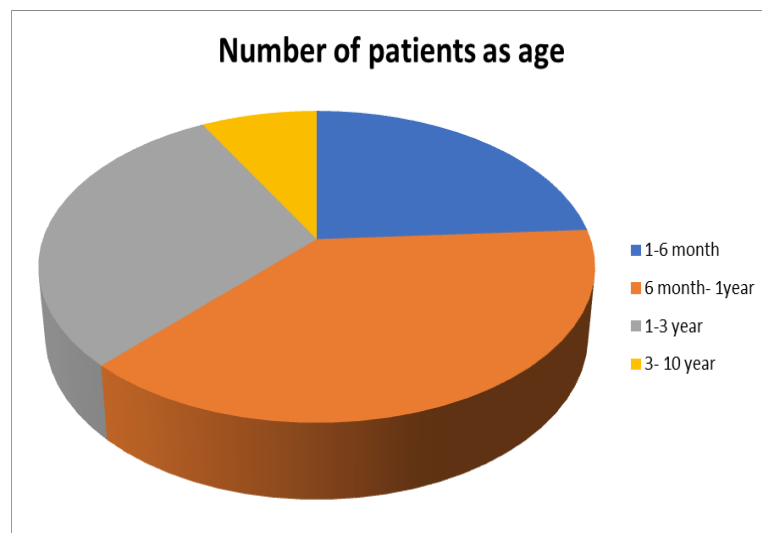


Figure no. 3: Distribution of case number of patients as age.

Anal fractures are common in babies but can happen to anyone at any age. Most anal fissures get better with easy treatments, such as eating more fibre or soaking in a warm-water bath. Some people with anal cracks might need medication. Sometimes, surgery may be needed. Changes in gut bacteria lead to more fermentation of nutrients, higher gas production, and changes in stool appearance, which can irritate the digestive system. An acute anal fissure usually heals within 6 weeks with conservative treatment. Some symptoms go away when constipation is managed. Anal fissures that last for 6 weeks or longer are known as chronic anal fissures; these treatments did not work, so they need surgery [7, 8].

People with anal cracks that do not heal properly might have uneven pressure in the anus, which can block normal blood flow in the nearby blood vessels. Less blood flow stops healing. Medicines, Botox shots, and some creams that increase blood flow can help fix anal fissures.

Factors that may elevate the risk of developing an anal fissure include

- **Constipation.** Straining during defecation and the passage of hard faeces elevate the likelihood of experiencing tears.
- **Childbirth.** Anal fissures occur with greater frequency in women following childbirth.
- **Crohn's Disease.** This inflammatory bowel disease induces persistent inflammation of the gastrointestinal tract. This may render the membrane of the anal canal more susceptible to laceration.
- **Anal coitus.**
- **Age.** Anal fissures may manifest at any stage of life; however, they are particularly prevalent among neonates and middle-aged individuals.

Provided that the lesion remains unhealed, daily bathing with baking soda or sodium bicarbonate (sodium carbonate) may offer relief. Moreover, this will ensure that the wound remains sanitary. Immerse yourself in a bathtub containing several inches of tepid water for 20 minutes, two to three times daily. This procedure is referred to as a sit soaking. It alleviates tension in the tissue and facilitates the relaxation of the anal sphincter [9]. It has been recently suggested that combination therapy is likely to be more effective than single therapy for chronic anal fissures and, thus, may completely heal anal fissures [10]. The effect of topical nifedipine and botulinum toxin is likely better than nitroglycerin and dilatation. Some studies using botulinum toxin injections as monotherapy report such high rates of healing [11, 12].

Conclusion

Since anal fissure disease in children is a common disease that requires treatment, whether surgical or non-surgical, and it is accompanied by other diseases that will certainly lead to other complications that worsen and become more dangerous in the future if neglected, then containing the disease, controlling it and treating it is considered a necessary matter through the necessity of an early visit to the specialist doctor, as treating all diseases is possible as it leads to the patient's recovery by following the instructions of the specialist doctor until complete recovery.

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