ISSN: 2456 - 530X

EIJO: Journal of Ayurveda, Herbal Medicine and Innovative Research (EIJO - AHMIR)

Einstein International Journal Organization (EIJO)

Available Online at: www.eijo.in

Volume – 2, Issue – 2, March - April - 2017, Page No. : 13 - 16

A Detailed Description of Anal Fissure and Its Management

Dr. Dinesh Kumar, BAMS, PG Scholar (Shalya Tantra), BHU, Varanasi, Uttar Pradesh.

Dr M.Sahu (Guide), BAMS, MS (Shalya Tantra), Dean BHU, Varanasi, Uttar Pradesh.

Abstract

An **anal fissure** is an anal tear, crack or ulcer in the lining of the anal canal - a cut or tear in the anus that extends into the anal canal. Although most anal fissures are less than one centimeter across, the anus is an extremely sensitive part of the body, pain symptoms tend to be worse than one would expect from such a small tear. The pain can be so severe that patients are unwilling to have a bowel movement, resulting in constipation and even fecal impaction. Causes like constipation, muscle spasm, Pregnancy and childbirth etc. are responsible for its formation. Patients with anal fissures consistently show that the muscles surrounding the anal canal are contracting too strongly (they are in spasm), thereby generating a pressure in the canal that is abnormally high. Conservative as well as Analgesics and surgery works to improve the general condition.

Keywords: Anal, Fissure, Pathophysiology, Pain, Blood, Itching.

1. Introduction

An anal fissure that lasts less than six weeks is called an acute anal fissure. A chronic anal fissure has symptoms for longer than six weeks. A primary anal fissure has not identifiable cause, while a secondary anal fissure does have an identifiable cause. It is a common cause of red blood in the stool (feces) and toilet paper.

Anal fissures can affect people of any age or sex equally. It is the most common cause of rectal bleeding in babies and children. Some children may find the sight of bright red blood in stools and toilet paper distressing.

2. Pathophysiology

The two muscles that surround the anal canal are the external anal sphincter and the internal anal sphincter (already discussed). The external anal sphincter is a voluntary (striated) muscle, that is, it can be controlled consciously. Thus, when we need to have a bowel movement we can either tighten the external sphincter or prevent the bowel movement, or we can relax it and allow the bowel movement. On the other hand, the internal anal sphincter is an involuntary (smooth) muscle, that is, a muscle we cannot control. The internal sphincter is constantly contracted and normally prevents small amounts of stool from leaking from the rectum. When a substantial load of stool reaches the rectum, as it does just prior to a bowel movement, the internal anal sphincter relaxes automatically to let the stool pass (that is, unless the external anal sphincter is consciously tightened).

When an anal fissure is present, the internal anal sphincter is in spasm. In addition, after the sphincter finally does relax to allow a bowel movement to pass, instead of going back to its resting level of contraction and pressure, the internal anal sphincter contracts even more vigorously for a few seconds before it goes back to its elevated resting level of contraction. It is thought that the high resting pressure and the "overshoot" contraction of the internal anal sphincter following a bowel

movement pull the edges of the fissure apart and prevent the fissure from healing.The supply of blood to the anus and anal canal also may play a role in the poor healing of anal fissures.

3. Location

The most common location for an anal fissure in both men and women (90% of all fissures) is the midline posteriorly in the anal canal, the part of the anus nearest the spine. Fissures are more common posteriorly because of the configuration of the muscle that surrounds the anus. This muscle complex, referred to as the external and internal anal sphincters, underlies and supports the anal canal. The sphincters are oval-shaped and are best supported at their sides and weakest posteriorly. When tears occur in the anoderm, therefore, they are more likely to be posterior. In women, there also is weak support for the anterior anal canal due to the presence of the vagina anterior to the anus. For this reason, 10% of fissures in women are anterior, while only 1% is anterior in men. At the lower end of fissures a tag of skin may form, called a sentinel pile. When fissures occur in locations other than the midline posteriorly or anteriorly, they should raise the suspicion that a problem other than trauma is the cause. Other causes of fissures are anal cancer, Crohn's disease, leukemia as well as many infectious diseases including tuberculosis, viral infections (cytomegalovirus or herpes), syphilis, gonorrhea, Chlamydia , chancroid (*Hemophilus ducreyi*), and human immunodeficiency virus (HIV).

Causes of an anal fissure

- Constipation - large, hard feces (stools) are more likely to cause lesions in the anal area during a bowel movement than soft and smaller ones.
- Muscle spasms - experts believe that anal sphincter muscle spasms may increase the risk of developing an anal fissure. Muscle spasms may also undermine the healing process.
- Pregnancy and childbirth - pregnant women have a higher risk of developing an anal fissure towards the end of their pregnancy. The lining of the anus may also tear during childbirth. During childbirth, trauma to the perineum (the skin between the posterior vagina and the anus) may cause a tear that extends into the anoderm
- STIs (sexually-transmitted infections) - also known as STDs (sexually transmitted diseases) are linked to a higher risk of having anal fissures. Examples include syphilis, HPS (human papilloma virus), herpes and Chlamydia.
- Underlying conditions - some underlying conditions, such as Crohn's disease, ulcerative colitis and other inflammatory bowel diseases may cause ulcers to form in the anal area.
- Anal sex - can sometimes cause anal fissures (rare).

Anal fissures are caused by trauma to the anus and anal canal. The fissure may be caused by a hard stool or repeated episodes of diarrhea. Occasionally, the insertion of a rectal thermometer, enema tip, endoscope, or ultrasound probe (for examining the prostate gland) can result in sufficient trauma to produce a fissure.

4. Symptoms of an anal fissure

The main signs and symptoms of an anal fissure include

Pain - especially when going to the toilet (passing stools). During the passing of a stool the pain is sharp, and then afterwards there may be a longer deep burning sensation. The pain following a bowel movement may be brief or long lasting; however, the pain usually subsides between bowel movements.

© 2015 EIJO, All Rights Reserved

Fear of pain may put some patients off going to the toilet, increasing their risk of having constipation. Unfortunately, after delaying going, when the person does go there is likely to be more pain and tearing because the stools will be harder and larger.

Blood - because the blood is fresh, it will be bright red and may be noticed on the stools or the toilet paper. Anal fissures in infants commonly bleed. Children may be alarmed at the sight of bright-red blood in their stools or toilet paper.

Itching - in the anal area. The sensation may be intermittent or persistent.

Dysuria - The pain also can affect urination by causing discomfort when urinating (dysuria), frequent urination, or the inability to urinate.

Pus - a malodorous (bad smelling) discharge of pus may come from the anal fissure.

5. Anal fissures Diagnosis and Evaluation

If rectal bleeding is present, an endoscopic evaluation using a rigid or flexible viewing tube is necessary to exclude the possibility of a more serious disease of the anus and rectum. A sigmoidoscopy that examines only the distal part of the colon may be reasonable in patients younger than 50 years of age who have a typical anal fissure. In patients with a family history of colon cancer or age greater than 50 (and, therefore, at higher risk for colon cancer), a colonoscopy that examines the entire colon is recommended. Atypical fissures that suggest the presence of other diseases, as discussed previously, require other diagnostic studies including colonoscopy and upper gastrointestinal (UGI) and small intestinal X-rays.

Treatment for anal fissures

In most cases, anal fissures resolve without the need for medical treatment or surgery. Topical creams and/or suppositories and OTC painkillers may help with symptoms. Some people, however, may experience chronic (long-term) problems if the lesion fails to heal properly. The goal of treatment for anal fissures is to break the cycle of spasm of the anal sphincter and its repeated tearing of the anoderm.

Initial treatment involves adding bulk to the stool and softening the stool with psyllium or methylcellulose preparations and a high fiber diet:

- Avoiding "sharp" foods that may not be well-digested (i.e., nuts, popcorn, tortilla chips).
- Increase liquid intake, and, at times, take stool softeners (docusate or mineral oil preparations).
- Sitz baths (essentially soaking in a tub of warm water). Sitz baths are encouraged, particularly after bowel movements, to relax the spasm, to increase the flow of blood to the anus, and to clean the anus without rubbing the irritated anoderm.

Prescription medications for anal fissures

- **Anesthetics and steroids**

Topical anesthetics (for example, xylocaine, lidocaine, tetracaine, pramoxine) are recommended especially prior to a bowel movement to reduce the pain of defecation. Often, a small amount of a steroid is combined in the anesthetic cream to reduce inflammation. The use of steroids should be limited to two weeks because longer use will result in thinning of the anoderm (atrophy), which makes it more susceptible to trauma.

© 2015 EIJO, All Rights Reserved

- **Nitroglycerin**

Glycerin trinitrate (nitroglycerin) has been shown to cause relaxation of the internal anal sphincter and to decrease the anal resting pressure.

When ointments containing nitroglycerin are applied to the anal canal, the nitroglycerin diffuses across the anoderm and relaxes the internal sphincter and reduces the pressure in the anal canal. This relieves spasm of the muscle and also may increase the flow of blood, both of which promote healing of fissures. The dose of nitroglycerin often is limited by side effects.

- **Calcium channel blocking drugs (CCBs)**

As is the case with nitroglycerin, ointments containing calcium channel blocking drugs (for example, nifedipine [Adalat] or diltiazem [Cardizem]) relax the muscles of the internal sphincter. They also expand the blood vessels of the anoderm and increase the flow of blood. Nifedipine ointment (2%) is applied in a manner similar to nitroglycerin ointment, but seems to produce fewer side effects.

- **Botulinum toxin**

Botulinum toxin (Botox) relaxes (actually paralyzes) muscles by preventing the release of acetylcholine from the nerves that normally causes muscle cells to contract. It has been used successfully to treat a variety of disorders in which there is spasm of muscles, including anal fissures.

6. Surgery

The Colon and Rectal Surgeons have recommended a surgical procedure called partial lateral internal sphincterotomy as the technique of choice for the treatment of anal fissures. In this procedure, the internal anal sphincter is cut starting at its distal most end at the anal verge and extending into the anal canal for a distance equal to that of the fissure. The cut may extend to the dentate line, but not farther. The sphincter can be divided in a closed (percutaneous) fashion by tunneling under the anoderm or in an open fashion by cutting through the anoderm. The cut is made on the left or right side of the anus, hence the name "partial lateral internal sphincterotomy." The posterior midline, where the fissure usually is located, is avoided for fear of accentuating the posterior weakness of the muscle surrounding the anal canal. (Additional weakness posteriorly can lead to what is called a keyhole deformity, so called because the resulting anal canal resembles an old fashioned skeleton key. This deformity promotes soilage and leakage of stool.)

7. Reference

[1]. Up-to-date. Anal Fissure (Beyond the Basics). Medically Reviewed by a Doctor on 8/4/2016

© 2015 EIJO, All Rights Reserved