

Anal fissure

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An **anal fissure** is a break or tear in the skin of the anal canal. Anal fissures may be noticed by bright red anal bleeding on the toilet paper, sometimes in the toilet. If acute they may cause severe periodic pain after defecation ^[1] but with chronic fissures pain intensity is often less. Anal fissures usually extend from the anal opening and are usually located posteriorly in the midline, probably because of the relatively unsupported nature of the anal wall in that location. Fissure depth may be superficial or sometimes down to the underlying sphincter muscle.

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Causes

Most anal fissures are caused by stretching of the anal mucosa beyond its capability.

Superficial or shallow anal fissures look much like a paper cut, and may be hard to detect upon visual inspection, they will generally self-heal within a couple of weeks. However, some anal fissures become chronic and deep and will not heal. The most common cause of non-healing is spasming of the internal anal sphincter muscle which results in impaired blood supply to the anal mucosa. The result is a non-healing ulcer, which may become infected by fecal bacteria. In adults, fissures may be caused by constipation, the passing of large, hard stools, or by prolonged diarrhea as well as anal sex. In older adults, anal fissures may be caused by decreased blood flow to the area.

Anal fissures are also common in women after childbirth and persons with Crohn's disease.^[2]

Prevention

Anal fissure

Classification and external resources



An anal fissure

ICD-10	K60.0 (http://apps.who.int/classifications/icd10/browse/2010/en#/K60.0) -K60.2 (http://apps.who.int/classifications/icd10/browse/2010/en#/K60.2)
ICD-9	565.0 (http://www.icd9data.com/getICD9Code.aspx?icd9=565.0)
DiseasesDB	673 (http://www.diseasesdatabase.com/ddb673.htm)
MedlinePlus	001130 (http://www.nlm.nih.gov/medlineplus/ency/article/001130.htm)
eMedicine	med/3532 (http://www.emedicine.com/med/topic3532.htm) ped/2938 (http://www.emedicine.com/ped/topic2938.htm#) emerg/495 (http://www.emedicine.com/emerg/topic495.htm#)
MeSH	D005401 (http://www.nlm.nih.gov/cgi/mesh/2011/MB_cgi?field=uid&term=D005401)

For adults, the following may help prevent anal fissures:

- Avoiding straining when defecating. This includes treating and preventing constipation by eating food rich in dietary fiber, drinking enough water, occasional use of a stool softener, and avoiding constipating agents such as caffeine.^[3] Similarly, prompt treatment of diarrhea may reduce anal strain.
- Careful anal hygiene after defecation, including using soft toilet paper and/or cleaning with water.
- In cases of pre-existing or suspected fissure, use of a lubricating ointment (e.g. hemorrhoid ointments) can be helpful.

In infants, frequent diaper change can prevent anal fissure. As constipation can be a cause, making sure the infant is drinking enough fluids (i.e. breastmilk, proper ratios when mixing formulas). In infants, once an anal fissure has occurred, addressing underlying causes is usually enough to ensure healing occurs.

Treatment

Non-surgical treatments are recommended initially for acute and chronic anal fissures.^{[4][5]} These include topical nitroglycerin or calcium channel blockers, or injection of botulinum toxin into the anal sphincter.^[6]

Other measures include warm sitz baths, topical anesthetics, high-fiber diet and stool softeners.^{[7][8]}

Medication

Local application of medications to relax the sphincter muscle, thus allowing the healing to proceed, was first proposed in 1994 with nitroglycerine ointment,^{[9][10][11][12]} and then calcium channel blockers in 1999 with nifedipine ointment,^{[13][14]} and the following year with topical diltiazem.^[15] Branded preparations are now available of topical nitroglycerine ointment (Rectogesic (Rectiv) as 0.2% in Australia and 0.4% in UK and US^[16]), topical nifedipine 0.3% with lidocaine 1.5% ointment (Antrolin in Italy since April 2004) and diltiazem 2% (Anoheal in UK, although still in Phase III development). A common side effect drawback of nitroglycerine ointment is headache, caused by systemic absorption of the drug, which limits patient acceptability.

A combined surgical and pharmacological treatment, administered by colorectal surgeons, is direct injection of botulinum toxin (Botox) into the anal sphincter to relax it. This treatment was first investigated in 1993. However it must be noted that, in many cases involving Botox injections the patients eventually had to choose another cure as the injections proved less and less potent, spending thousands of dollars in the meantime for a partial cure. Lateral sphincterotomy is the Gold Standard for curing this affliction.^[17] Combination of medical therapies may offer up to 98% cure rates.^[18]

Surgery

Surgical procedures are generally reserved for people with anal fissure who have tried medical therapy for at least one to three months and have not healed. It is not the first option in treatment.

The main concern with surgery is the development of anal incontinence. Anal incontinence can include inability to control gas, mild fecal soiling, or loss of solid stool. Some degree of incontinence can occur in up to 45 percent of patients in the immediate surgical recovery period. However, incontinence is rarely permanent and is usually mild. The risk should be discussed with your surgeon.

Surgical treatment, under general anaesthesia, was either anal stretch (Lord's operation) or lateral

sphincterotomy where the internal anal sphincter muscle is incised. Both operations aim to decrease sphincter spasming and thereby restore normal blood supply to the anal mucosa. Surgical operations involve a general anaesthetic and can be painful postoperatively. Anal stretch is also associated with anal incontinence in a small proportion of cases and thus sphincterotomy is the operation of choice.

Lateral internal sphincterotomy

Lateral internal sphincterotomy (LIS) is the surgical procedure of choice for anal fissures due to its simplicity and its high success rate (~95%). In this procedure the internal anal sphincter is partially divided in order to reduce spasming and thus improve the blood supply to the perianal area. This improvement in the blood supply helps to heal the fissure, and the weakening of the sphincter is also believed to reduce the potential for recurrence. The procedure is generally performed as a day surgery after the patient is given general anesthesia. The pain from the sphincterotomy is usually mild and is often less than the pain of the fissure itself. Patients often return to normal activity within one week.

LIS does, however, have a number of potential side effects including problems with incision site healing and incontinence to flatus and faeces (some surveys of surgical results suggest incontinence rates of up to 36%).^[19]

Anal dilation

Anal dilation, or stretching of the anal canal (Lord's operation) has fallen out of favour in recent years, primarily due to the perceived unacceptably high incidence of fecal incontinence.^[citation needed] In addition, anal stretching can increase the rate of flatus incontinence.^[20]

In the early 1990s, however, a repeatable method of anal dilation proved to be very effective and showed a very low incidence of side effects.^[21] Since then, at least one other controlled, randomized study has shown there to be little difference in healing rates and complications between controlled anal dilation and LIS,^[22] while another has again shown high success rates with anal dilation coupled with low incidence of side effects.^[23]

See also

- Hemorrhoid
- Pruritus ani

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