Fissure in ano

Anal fissure

Definition

An anal fissure is an elongated ulcer in the long axis of the lower anal canal.

Location

The site of election for an anal fissure is the midline posteriorly (90 per cent overall). The next most frequent situation is the midline anteriorly.

Aetiology

The cause of anal fissure, and particularly the reason why the midline posteriorly is so frequently affected, is not completely understood. A probable explanation is as follows: the posterior wall of the rectum curves forwards from the hollow of the sacrum to join the anal canal, which then turns sharply backwards. During defecation, the pressure of a hard faecal mass is mainly on the posterior anal tissues, in which event the overlying epithelium is greatly stretched and, being relatively unsupported by muscle, is placed in a vulnerable position when a scybalous mass is being expelled.

Some causes of anal fissure are certain:

•an incorrectly performed operation for haemorrhoids in which too much skin is removed. This results in anal stenosis and tearing of the sear when a hard motion is passed;

• inflammatory bowel disease — particularly Crohn's disease;

• sexually transmitted diseases.

Acute anal fissure is a deep tear through the skin of the anal margin extending into the anal canal. There is little inflammatory induration or oedema of its edges. There is accompanying spasm of the anal sphincter muscle.

Chronic anal fissure is characterised by inflamed indurated margins, and a base consisting of either scar tissue or the lower border of the internal sphincter muscle. The ulcer is canoe-shaped, and at the inferior extremity there is a tag of skin, usually oedematous. This tag is known picturesquely as a sentinel pile — 'sentinel' because it guards the fissure. There may be spasm of the involuntary musculature of the internal sphincter. In long-standing cases, this muscle becomes organically contracted by infiltration of fibrous tissue. Chronic fissure in ano may have a specific cause — often a granulomatous infection, e.g. Crohn's disease.

Clinical features

Symptoms of anal fissure

- Pain on defecation
- Bright red bleeding
- Mucus discharge
- Constipation

The condition is more common in women and generally occurs during the meridian of life. It is uncommon in the aged, because of muscular atony,

• **Pain is the symptom** — sharp, agonising pain starting during defecation, often overwhelming in intensity and lasting foran hour or more. As a rule, it ceases suddenly, and the sufferer is comfortable until the next action of the

bowel. Periods of remission occur for days or weeks. The patient tends to become constipated rather than go through the agony of defecation.
• **Bleeding** — this is usually slight and consists of bright streaks on the stools or the paper.
• **Discharge.** A slight discharge accompanies fully established cases.

On examination
In cases of some standing, a sentinel skin tag can usually be displayed. This, together with a typical history and a tightly closed, puckered anus, is almost pathognomonic of the condition. By gently parting the margins of the anus, the lower end of the fissure can be seen.
Because of the intense pain it causes, digital examination of the anal canal should not be attempted at this stage unless the fissure cannot be seen, or it seems imperative to exclude major intrarectal pathology. In these circumstances, the local application of a surface anaesthetic such as 5 per cent xylocaine on a pledget of cotton wool, left in place for about 5minutes, will enable the necessary examination to be made. In early cases, the edges of the fissure are impalpable; in fully established cases, a characteristic crater which feels like a vertical buttonhole can be palpated. The diagnosis must be established beyond doubt, for which a general anaesthetic may be required.
Conservative treatment
Because of the risks of incontinence associated with sphincterotomy, it is now usual practice to treat anal fissures conservatively in the first instance using a chemical sphincterotomy. Nitric oxide has been shown to be the neurotransmitter which induces relaxation of the internal sphincter. Glyceryl trinitrate, being a nitric acid donor, when applied as an ointment (0.2 per cent by weight) to the anal canal produces sufficient relaxation of the sphincter to allow the fissure to heal in up to two-thirds of patients. In addition, glyceryl trinitrate ointment improves blood flow to the area, and this aids healing. Other measures include laxatives to ensure the motions are soft, but the stools should not be made watery. Celevac tablets give a soft stool of good bulk which is ideal.

Operative measures
The simplest procedure in the past has been gentle dilatation of the sphincter. Great care and judgement had to be exercised, so that the anal sphincter was not overstretched. The risks of incontinence following this procedure have now made it unpopular.
Should these measures prove ineffective, or if the fissure is chronic with fibrosis, a skin tag or a mucous polyp, then surgical measures are advisable. General anaesthesia is best, although some surgeons use a local anaesthetic.
Lateral anal sphincterotomy. In this operation, the internal sphincter is divided away from the fissure itself — usually either in the right or the left lateral positions.
Dorsal fissurectomy and sphincterotomy
The essential part of the operation is to divide the transverse fibres of the internal sphincter in the floor of the fissure. If a sentinel pile is present, this is excised. The ends of the dividend muscle retract and a smooth wound is left. It is now reserved only for the most chronic or recurrent anal fissures, the majority being treated by lateral sphincterotomy.

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