

Table 8. Current concepts for chronic anal fissures

1	Chronic anal fissures are defined as lasting more than 8–12 wk and are characterized by edema and fibrosis.
2	Chronic anal fissures persist as nonhealing ulcers by anal sphincter spasm and consequent ischemia. Treatment is typically directed toward softening stool and reducing spasm to improve perfusion to this area.

anal fissure, or other conditions does not invalidate the diagnosis of PF.

The pathophysiology of the disorder remains unknown, and no trigger events are consistently identified. A rare congenital form of this disorder has been identified as have patients with thickening of the internal anal sphincter associated with elevated resting pressure.

The recommended approach to patients with PF is an explanation of the disorder and reassurance. Given the brevity of episodes of PF, there is no evidence to support treatment intervention or to prevent attacks. The potential efficacy of salbutamol inhalation is based on a study published 25 years ago, was effective only in patients in whom the duration of pain was greater than 20 minutes, and has not been duplicated (137). Therefore, we do not endorse treatment of any kind (Table 7).

ANAL FISSURES

Definition

An anal fissure is an ulcer-like longitudinal tear in the midline of the anal canal, distal to the dentate line. In almost 90% of cases, an idiopathic fissure is located in the posterior midline (138), but it can also occur in the anterior midline (132). Fissures in lateral positions should raise suspicion for disease processes such as Crohn's disease (137), tuberculosis (133), syphilis, human immunodeficiency virus/acquired immunodeficiency syndrome, dermatologic conditions (e.g., psoriasis), and anal carcinoma (Table 8).

Pathophysiology

Often, there is the history of a tearing sensation during passage of a hard stool or diarrhea. Rectal bleeding is frequent and occurs during or after defecation and is usually limited to minimal bright red blood on toilet tissue (134). Chronicity of an anal fissure results in a nonhealing ulcer due to spasm of the internal anal sphincter muscle and consequent ischemia (Table 9).

Clinical features

An acute anal fissure looks like a simple tear in the endoderm. A chronic fissure is a nonhealing anal fissure and is defined as lasting more than 8–12 weeks. It is further characterized by overhanging edges, edema, and fibrosis with fibers of the internal anal sphincter, which may be visible in the floor of the fissure (134). Typical accompanying features of chronic fissures include a sentinel pile (skin tag) at the distal fissure margin and a hypertrophied anal papilla in the anal canal proximal to the fissure. The former is often described by patients as a painful hemorrhoid, and the latter may be seen on anoscopy or endoscopic retroflexion. The clinical hallmark of an anal fissure is pain during defecation and often persisting after defecation. Rectal bleeding is

Table 9. Treatment recommendations for chronic anal fissures

1	We recommend that local application of a calcium channel blocker should be the initial medical treatment of chronic anal fissure (strong recommendation; quality of evidence: low). Consensus score: 27
2	We suggest that botulinum toxin A injections may be attempted in patients in whom CCB fails or as an alternative option to CCB (conditional recommendation; quality of evidence: low). Consensus score: 27
3	We recommend that LIS is the surgical treatment of choice for chronic anal fissures that do not heal with nonsurgical measures (strong recommendation; quality of evidence: high). Consensus score: 29

CCB, calcium channel blocker; LIS, lateral internal sphincterotomy.

frequent and occurs during or after defecation and is usually limited to minimal bright red blood on toilet tissue (134).

Medical management

Almost half of all patients with acute anal fissure will heal with sitz baths (135) and fiber supplements such as psyllium as the first step in therapy, with or without the addition of topical anesthetics or anti-inflammatory ointments. In addition to fissure healing, symptomatic relief of pain and bleeding can be achieved with virtually no side effects (Table 10).

A chronic anal fissure is often treated with topical pharmacologic agents such as calcium channel blockers or nitrates. Treatment with topical nitrates is marginally superior to placebo in healing of a chronic anal fissure with a short-term decrease in anal pressures (136). In a study using 3 doses of topical nitroglycerine vs placebo, 0.1%, 0.2%, and 0.4% nitroglycerin ointments were applied twice daily for 8 weeks. Healing was reported in 50%, 36%, and 57% of patients, respectively, compared with 26% in the placebo group. The most common side effect was headache, which was dose related (140). However, extending treatment for a longer time is not associated with increased healing rates (139). A Cochrane review of medical treatment of chronic anal fissure concluded that topical nitroglycerin remains only marginally better 48.9% vs 35.5% than placebo in healing chronic anal fissures (149).

Chronic anal fissures may also be treated with topical calcium channel blockers such as nifedipine. There are few studies reporting calcium channel blockers and none reporting a dose escalation. The healing rate reported with a topical calcium channel blocker approximates 67% (141) to 90% (150), with long-term healing reported in 70% of patients; side effects consisted mainly of headache in 20%, and about 10% of patients stopped treatment due to this side effect in an uncontrolled study (151). Although impressive, the absence of a placebo control makes it impossible to compare to the controlled trials of topical nitrates. Another study reported a healing rate of 91.7% with topical diltiazem (2%) vs 60% with topical nitroglycerine (0.2%). The incidence of headache was lower with topical diltiazem (0%) than with nitroglycerine (100%) (152). The absence of any side effects with diltiazem seems implausible, but the study does suggest the efficacy of both agents. There are very few studies comparing topical nitroglycerine and nifedipine. One compared nifedipine with topical nitrate medications. This showed a healing rate of 80% with nifedipine, 73% with 0.2% nitroglycerine, and 33% with