Treatment of Fistulizing Inflammatory Bowel Disease

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KEYWORDS

• Fistula • Inflammatory bowel disease • Crohn disease
• Biologic agents • Anti-TNF • Perianal • Abscess • Treatment

Crohn disease can manifest in many different ways including fibrostenotic (stricturing) or nonperforating, nonstricturing (inflammatory) disease or predominantly perforating (fistulizing) disease. Patients with fistulizing Crohn disease tend to have a more aggressive disease course. Fistulas can be either external (enterocutaneous or perianal) or internal, such as enteroenteral or enterocystic. The morbidity is increased greatly in those patients with fistulizing disease. Perianal disease and fistulas can lead to fecal incontinence, abscess formation, and anal strictures. External fistulas, including enterocutaneous and perianal fistulas, are associated with pain, abscesses, and drainage. In contrast, internal fistulas are frequently asymptomatic and therefore hard to diagnose. The treatment of fistulas depends on many factors, including location, severity, and previous surgical history.

Understanding of perianal disease continues to grow, and newer therapies such as antitumor necrosis factor anti-(TNF) agents have expanded therapeutic treatment options and changed the practitioner's goal of treatment for fistulas from reduction in fistula drainage to true closure or fibrosis of the fistula tract.

The estimated incidence of fistulas (enterocutaneous or perianal) in patients with Crohn disease is approximately 35%.[1] Approximately 21% of patients with Crohn will have perianal fistulas within 10 years of diagnosis. Before the introduction of biologic agents, most fistulas required surgical intervention, and the rate of fistula recurrence was estimated to be 34%.[1–3] Internal fistulas are often silent but perhaps just as common. In a study by Michelassi and colleagues, one third of all patients undergoing an operation for Crohn disease were found to have internal fistulas. Of those patients,

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25 of 36 (69%) with enterovesicular fistula had symptoms of internal fistula such as pneumoturia or fecaluria. In the other 147 patients with internal fistulas, only 54% had accurate preoperative diagnostic evaluation (radiographic or endoscopic).[4]

UNDERSTANDING THE ANATOMY AND PATHOGENESIS

Current understanding shows that fistulas in Crohn disease develop secondary to multiple causes. Internal fistulas, or fistulas from the small bowel or colon to the adjacent bowel or organs, are likely secondary to transmural inflammation of the bowel wall. This inflammation then can penetrate into adjacent organs, tissue, or skin. These fistulas are more likely to occur at the site of a stricture and may represent a bypass tract. These types of fistulas are categorized by their location and the connection with contiguous organs such as enterovesicular fistulas or enteroenteric fistulas.[5] One proposed mechanism for perianal fistula formation is that fistulas begin as an ulcer within the anal canal. When feces are forced into this ulcer, they cause penetration of the lesion through the wall. This track then extends over time with increased pressure from the fecal stream.[6] Another hypothesis of fistula formation involves an abscess of one of the anal glands, which can be present within the intersphincteric space. This abscess then grows, and a fistula forms as a way to drain this area of the purulence under pressure. The fistula can extend through the external anal sphincter (trans-sphincteric fistula), track down to the skin (intersphincteric fistula), or track upward to become a suprasphincteric fistula. It is important to diagnose and categorize fistulas correctly, as correct categorization impacts which treatment modality will be most useful or successful in an individual patient.

In order to understand how best to treat fistulizing Crohn disease, one must have a thorough understanding of the anatomy of the anal canal (**Fig. 1**). The anal canal is formed by three layers:

The internal anal sphincter, which is made of smooth muscle of the rectum
The intersphincteric space
External anal sphincter, which is comprised of skeletal muscle arising from an extension of the puborectalis and levator ani muscles

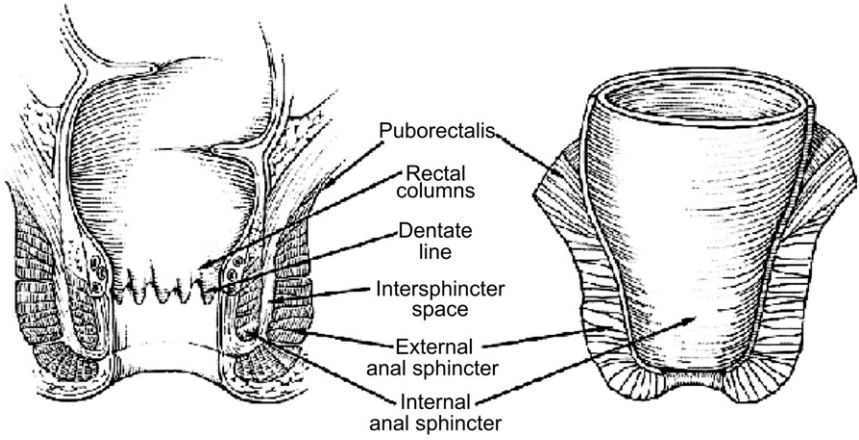

Fig. 1. Schematic diagram of the perianal region. (*Adapted from* Fry RD, Kodner IJ. Anorectal disorders, Clin Symp 1985;37:2–32; with permission.)