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REVIEW

Treatment of anal fistula and abscess

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Summary The glands of Hermann and Desfosses, located in the thickness of the anal canal, drain into the canal at the dentate line. Infection of these anal glands is responsible for the formation of abscesses and/or fistulas. When this presents as an abscess, emergency drainage of the infected cavity is required. At the stage of fistula, treatment has two sometimes conflicting objectives: effective drainage and preservation of continence. These two opposing constraints explain the existence of two therapeutic concepts. On one hand the laying-open of the fistulous tract (fistulotomy) in one or several operative sessions remains the treatment of choice because of its high cure rates. On the other hand surgical closure with tract ligation or obturation with biological components preserves sphincter function but suffers from a higher failure rate.

IMPORTANT POINTS

For an abscess originating from the anal crypt, the anal fistula is defined as the tract extending from the endo-anal orifice inward to the infected gland and from there to its exit point on the peri-anal skin.

After simple abscess drainage, recurrence is common in the long term, either in the form of a new abscess, or in the form of a fistula.

Two therapeutic imperatives impose themselves successively during management: firstly, urgent performance of a good-quality drainage of the purulent collection, the sine qua non for control of the infection, and secondly, long-term effective treatment of the ever-present underlying fistula, to prevent recurrence.

Identification and exploration of the fistulous tract at the time of emergency drainage of a peri-anal abscess is not essential, particularly if the operator is inexperienced.

Fistulotomy in one or several stages is the most effective technique for treating fistulas.

Fistulotomy for complex fistulas has a risk of impairing the sphincter mechanism and anal continence; this has encouraged the development of conservative techniques, which are, unfortunately, still poorly evaluated.

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Introduction

Abscesses of the anal region arise from various etiologies, the most common being infection of an anal gland of Hermann and Desfosses. They are called cryptogenic or anal glandular abscess. Eight to twelve anal glands are situated around the anal circumference, predominantly in the posterior pole. Their exact functional role is unknown. They drain into the anal lumen at the dentate line. The gland itself is located more or less deeply within the structures of the anal canal: the internal sphincter, intersphincteric space and sometimes the external sphincter. Infection of the anal glands can manifest in an acute form (anal abscess), and in a chronic form (anal fistula). Apart from Crohn's disease, there are no known factors that predispose to anal gland infection, which occurs at a rate of 12.3 per 100,000 population in men and 5.6 per 100,000 in women.

The abscess usually develops in the ischiorectal fossa, the intersphincteric space of the anal canal, or the rectal wall. Once formed, it can extend into neighboring anatomical areas: the contra-lateral ischiorectal fossa, the vaginal lumen... Extension of an abscess into the supralevator area rarely occurs spontaneously and is usually a secondary complication of surgical exploration. The abscess may point and drain on the perineal skin defining the external orifice of the anal fistula, but it can also penetrate the rectal wall thereby providing a proximal intersphincteric or intramural fistula. These two entities can evolve quite differently: an abscess may be subacute or acute and overwhelming, quickly evolving to gas gangrene, while a fistula can drain intermittently in large or small amounts over time.

Anal fistula is defined by:

- an internal orifice originating along the anal circumference. This is the natural drainage orifice of the infected anal gland, and is located on the dentate line;
- its radial track, from the external orifice to the internal orifice or following a curved path backward or forward. Fistulae are usually single, but may be multiple or branched with diverticula;
- the height of the fistulous tract relative to the sphincteric structures that it traverses, as described by the Arnous or Alan Parks classifications [1,2] (Fig. 1);
- its etiology: usually associated with infection of an anal gland of Hermann and Desfosses but occasionally secondary to anorectal ulceration (Crohn's disease and, more rarely, tuberculosis, gonorrhea...);
- the complexity of the fistulous tract: high fistula, multiple tracts, ano-vaginal fistula, horseshoe fistula extending bilaterally into both ischiorectal fossae around the posterior aspect of the anus, or more rarely, anterior to the anal canal. The American Gastroenterological Association pragmatically defines complex fistula as any tract that is not low, does not have a direct radial tract, is not associated with Crohn's disease or a history of irradiation, and does not affect other anatomical structures (including vagina) [3].

Treatment of the abscess

Anal abscess is a surgical emergency due to severe pain and the risk of progression to severe local sepsis local

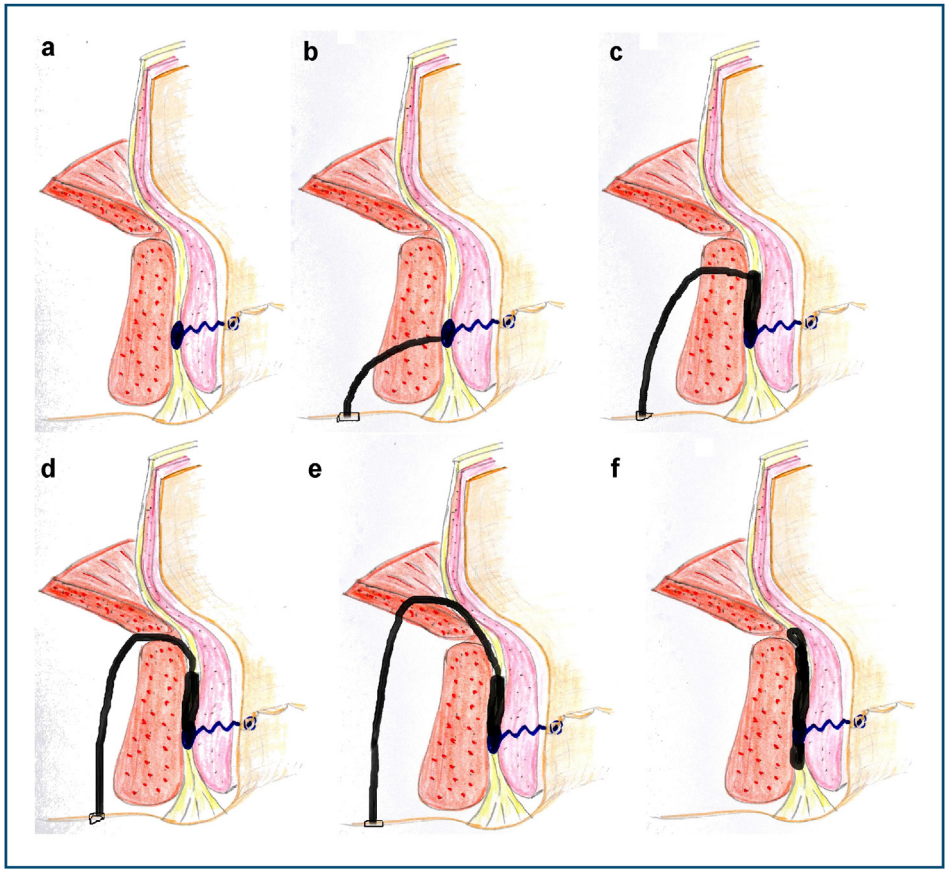

Figure 1. (a) Anal gland. (b) Low fistulous tract. (c) The initial extension into the intersphincteric space results in a high tract. (d) The fistula is considered suprasphincteric if it passes above the external sphincter. (e) The fistula is considered extra-sphincteric if it passes through the levators. (f) Intersphincteric fistula extends between the internal and external sphincters in the rectal wall for a variable distance.