Symposium

Anorectal Problems:
The Deep Postanal Space—Surgical Significance in Horseshoe Fistula and Abscess

CHARLES H. HAMILTON, M.D.*

Columbus, Ohio

The incidence of horseshoe anorectal fistula and abscess is approximately 15 to 20 per cent of fistulous lesions in this anatomic region. The nature and extent of the lesion frequently fail to be recognized or appreciated, especially by the general surgeon. Thus, treatment may be inadequate, and recurrent abscesses and persistent fistulous tracts frequently result. The intent of this paper is to re-emphasize the pathogenesis of the lesion and call attention to the essential principles of treatment.

Surgical Anatomy and Pathogenesis

Gorsch describes the anatomic structures and spaces that must be understood to accomplish effective treatment. Courtney and Pope have helped to elucidate the problem. More recently, Dr. Patrick Hanley has outlined his method of management of this inflammatory lesion.

The typical horseshoe fistula is a high anorectal fistula that is still infralevator in location. The vast majority of these fistulas and abscesses will originate in the offending crypt, at or near the posterior midline of the anal canal. The lesion then usually penetrates more deeply and cephalad to involve the deep postanal space (posterior subsphincteric space). The inflammatory process may then circuit in a circumlinear manner to either ischiorectal fossa, thus explaining the descriptive term, "horseshoe fistula."

The deep postanal space is located approximately mid-way between the tip of the coccyx and the anal orifice (Fig. 1) deep to the superficial external anal sphincter and superficial to the levator muscles. The inflammatory process may communicate between the ischiorectal fossae via the intersphincteric space of Courtney (the deep postanal space).

Surgical access to the deep postanal space is best achieved by making a vertical incision mid-way between the tip of the coccyx and the anal opening, then spreading the fibers of the superficial external sphincter as it spans out to attach to the coccyx (Fig. 2). The undersurface of the levator diaphragm and the margins of the puborectal portion of the levator complex can be identified after the space is entered. Frequently, verification of the correct space can be made by retrograde passage of a curved hemostat or a probe from either or both ischiorectal fossae.

Anterior horseshoe fistulas also occur, though much less often than those posterior to the bi-ischial line. In these cases the
pathway across the midline is usually deep rather than superficial and follows the fibers of the deep external sphincter as they decussate through the central tendinous point of the perineum.

Diagnosis

Presenting Signs and Symptoms: The patient usually complains of perianal swelling, pain, or drainage. Fever and leukocytosis may be present, and the patient may be acutely ill. One or both ischiorectal spaces may be involved with loculated abscesses or a chronically draining sinus (Fig. 3), anywhere along the course of the curvilinear tract. With chronic, recurrent fistulas or abscesses there is usually fibrotic induration or contracture of the subcutaneous tissues.

Occasionally, dye injection of sinuses may be of benefit, but often the diagnosis is evident on clinical examination either in the office or with the patient under anesthesia. Digital, anoscopic and sigmoidoscopic examinations are always performed to provide a complete picture of the extent of the problem. Barium-enema examination of the colon is performed as frequently as circumstances permit prior to operative intervention.

Principles of Treatment and Technique

The acute abscess represents the end stage in the development of a fistula. Approximately 98 per cent of all anorectal abscesses result from fistulas originating in an anal crypt, fissure or ulcer. The primary opening (internal) must be found and obliterated, together with as much of the tract as possible. Most often this can be accomplished without excessive sacrifice of skin and sphincter muscle components.

Once the diagnosis of an acute abscess is made, the sooner it is uncapped the better. All abscesses should be uncapped and wounds saucerized, rather than simply incised and drained (Fig. 2). Counter-drainage incisions may be necessary with large