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REVIEW

Pilonidal sinus disease

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Rhomboid flap

Summary Pilonidal disease is a frequent suppurative condition that occurs twice as often in men as in women, usually between the ages of 15 and 30. Pilonidal disease is located beneath the skin of the sacro-coccygeal region. It presents acutely as an abscess under tension while the chronic form gives rise to intermittent discharge from pilonidal sinus(es). Diagnosis is clinical and usually straightforward. In the large majority of cases, treatment is surgical but there is no consensus as to the 'ideal' technique. Acute abscess must be evacuated and an off-midline incision seems preferable. Excision is the standard definitive treatment but the choice of wide versus limited excision depends on the school of thought. The widespread practice in France is to leave the wound open, relying on postoperative healing by secondary intention. This technique has a low rate of recurrence but has the disadvantages of requiring local nursing care; the healing process is prolonged, usually associated with a temporary but prolonged cessation of activity. Primary wound closure techniques are less restrictive but their recurrence rate is probably higher. A direct midline suture is best after a small excision, but for a more extended wound, plastic reconstruction techniques are preferred; data in the literature favor asymmetric closure techniques such as those described by Karydakis and Bascom.

''I venture to give the name of pilo-nidal (pilus, a hair, nidus, a nest) sinus to this rather singular lesion.'' (Richard Manning Hodges, 1827—1896) [1].

Introduction

Infected pilonidal sinus disease has been known for a long time since the first ''official'' description by Abraham Wendell Anderson (1804—1876) dates from 1847 [1]. This type of suppuration is frequent and clinical presentation is relatively monomorphous. However, the underlying physiopathology remains controversial and management depends on a variety of treatment modalities, none of which are unanimously accepted. We have therefore attempted to gather and summarize the data available in the literature on this disease.

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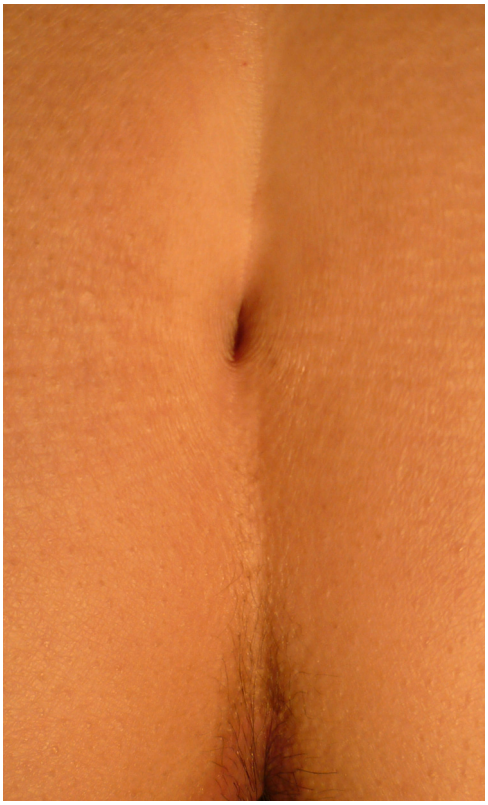

Figure 1. Congenital pilonidal pit in asymptomatic subject.

Epidemiology and patient population

Infected pilonidal disease affects approximately 0.7% of the population [2]. The incidence is nearly 25/100,000. It occurs at least two times as frequently in men as in women, usually between the ages of 15 and 30; the disease occurs exceptionally before puberty or after 60 [3,4].

A hairy body, thick skin, overweight (BMI > 25 kg/m^2), a deep gluteal cleft, lack of hygiene, the seated position several hours per day, repeated chafing (during the second World War, the American military surgeons nicknamed the affection ''Jeep seat'' disease, because of the increased prevalence among Jeep drivers) and previous familial history are commonly admitted as predisposing factors [3,5,6].

Physiopathology

The physiopathology is much debated, based on two principal theories.

''Congenital'' theory

Initial descriptions suggested that the infection arose from a congenital subcutaneous pilonidal sinus, present at birth, resulting from the absence of coalescence of the primitive ectoderm. Indeed, typical pits are seen regularly in asymptomatic patients (Fig. 1). Moreover, familial infected pilonidal sinus disease has been reported [3,5].

''Acquired'' theory

Proposed in the middle of the twentieth century, this theory is based on the primordial role of the hair follicle. Thus, repeated microtraumatism, rubbing and/or crushing, as can be seen in heavy duty drivers, associated with spreading of the two buttocks, generated by movements of the two gluteal masses, might be at the origin of traction on the pilous follicles in the gluteal cleft in predisposed patients as described above. The pits correspond to distended and enlarged follicles enhanced by these repeated causes of friction. Ingrowth beneath the skin, via these pits, of one or more hair strands results in local inflammation and foreign body reaction leading to the formation of a subcutaneous cavity surrounded by granulation tissue. At some point, this pilonidal cyst becomes infected constituting a pilonidal abscess that drains via a pilonidal sinus; the cavity contains a variable quantity of hair, typically fragmented, without typical hair follicles or sebaceous glands. Modifications of the hair strand under the influence of sex hormones explain the post-puberty onset [7].

Most authors admit this theory today, corroborated by the fact that the same type of suppurations have been observed in the interdigital spaces of hairdressers and barbers who constantly handle hair between their fingers but also in professions involved in animal toileting or sheep shearing [8].

Clinical presentation

The initial presentation of infected pilonidal sinus disease may be as an acute pointing abscess or a chronic sinus with intermittent drainage.

In the case of a tense pointing abscess, the main complaint is pain, but fever is rare. Sometimes, the suppurative cavity drains spontaneously and can thus become ''chronic''. Pain subsides and the patient complains of intermittent seropurulent discharge or occasional bleeding from one or more the cutaneous orifices.

Physical examination shows a pilonidal cyst or sinus located beneath the skin, generally at the top of the gluteal cleft, at the level of the coccyx and/or the sacrum, 4 to 10 cm from the anus, in the midline, but often asymmetrical in shape. In case of acute abscess, the sinus presents as a non-specific inflammatory tumefaction (Fig. 2). In its chronic form, the presentation is variable according to the degree of inflammation and accompanying scarring; the cavity communicates with the skin by one or more sinuses that can open up by simple pressure (Fig. 3).

Whatever the mode of presentation, the infected pilonidal sinus is typically accompanied by one or several pits, located in the midline (most of the cases) communicating with the deeper cavity by a tract that is often epithelialized (Fig. 4). The presence of hair debris, exiting from the pits and/or the cutaneous orifices (Fig. 5), and easy to remove with forceps, is equally characteristic.

Occasionally, the suppuration is misleading when located near the anal verge, or even in the anterior perineum. Likewise, the presence of older chronic suppurations with secondary tracts, especially extending laterally and sometimes far from the midline [3] is fairly frequent.

Natural history

Most often, infected pilonidal sinus disease evolves between more or less quiescent phases and inflammatory flares. The natural history is therefore either one of repeated abscesses, or chronic purulence [3]. Rarely, a prolonged period of respite can lead to believe that spontaneous healing has occurred.