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Case Report

Barber's disease: a rare case of interdigital pilonidal sinus

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Abstract

Barber's disease is caused by short hairs penetrating the interdigital spaces of the hands. The chronic inflammatory reaction causes fistulas, sinuses, and cysts. In this study, we presented a patient with a rarely seen pilonidal sinus in the third interdigital space of the right hand.

Keywords: Barber's disease, interdigital pilonidal sinus, hand web space disease, interdigital hair pocket disease, occupational disease, hand infection

Introduction

Interdigital pilonidal sinus disease, also known as barber's disease in Anglo-American parlance, is an occupational disease of hairdressers [1]. Short-cut hair penetrates the skin of the interdigital folds, causing foreign body granuloma or cyst formation, which often leads to chronic, but acute, infections or abscesses [1].

In this study, we present a patient with pilonidal sinus in the third interdigital space of the right hand.

Case report

A 56-year-old man presented to our clinic with a five-year history of recurrent interdigital infections affecting the third interdigital space of his right hand. He had no other medical history and had never had any previous skin disease. He had been a barber for twenty years. A wound that appeared approximately one year ago as a pinpoint hole and frequently festered had gradually enlarged, becoming a chronic, discharge-filled lesion with occasional small hairs. Recurrent abscesses were observed. As advised, the patient used oral and topical antibiotics, albeit infrequently, but his symptoms improved somewhat, but not completely. Direct examination of the lesion revealed two small sinus tracts containing hair particles and signs of chronic inflammation (Figure 1). Palpation revealed a cystic lesion, less than 1 centimeter in diameter, subcutaneously distal to the sinuses, which drained purulent fluid upon compression. Both hands were carefully examined, especially between the fingers, but no other pathology was detected. The patient underwent surgical excision and primary closure of the sinus tract in the third interdigital space (Figure 2).

Discussion

The term pilonidal sinus interdigitalis appears misleading because it implies involvement of the patient's own hair or mesenchymal, ectopic tissue [1,2]. Therefore, this condition is not a true pilonidal sinus disease. In contrast, interdigital hair pocket disease (IPD) is a disease caused by the penetration of foreign hairs into the interdigital spaces, leading to the formation of foreign body granulomas, cysts, or fistulas [2]. In barbers, this disease is caused by the penetration of short hair particles belonging to clients into the skin between the fingers [3].

Pilonidal sinus is usually seen in the sacrococcygeal region or other body areas covered with hair [4]. Interdigital pilonidal sinus is an occupational disease and occurs in areas where there are no hair follicles anatomically, and the hairs causing the disease are of external origin, not the patient's [5]. Similar (occupational) diseases are known in sheep shearers due to penetration of wool and in dairymen due to penetration of cow hair [6-8].

Sharp, clipped hairs accumulate in the interdigital space with the help of other factors such as moisture, electrostatic effects, and stickiness [1]. Hairs that penetrate the skin cause an inflammatory reaction and form foreign body granulomas, which then lead to the development of sinuses and cysts, accompanied by chronic purulent discharge [9]. The structure of the lesions varies from epithelial-lined tracts with surrounding foreign body reactions

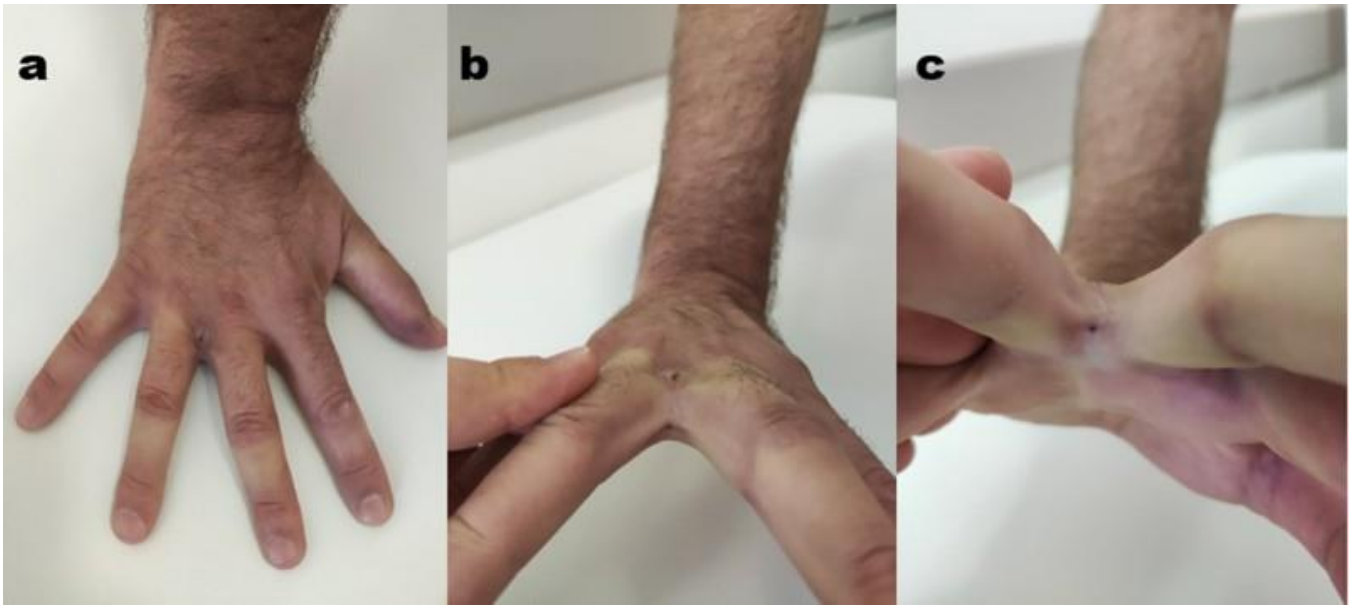

Figure 1. Appearance of the lesion in the third web space **a)** view of the hand from the dorsal side, **b)** direct view of the interdigital space, **c)** view of the hand from the palmar side

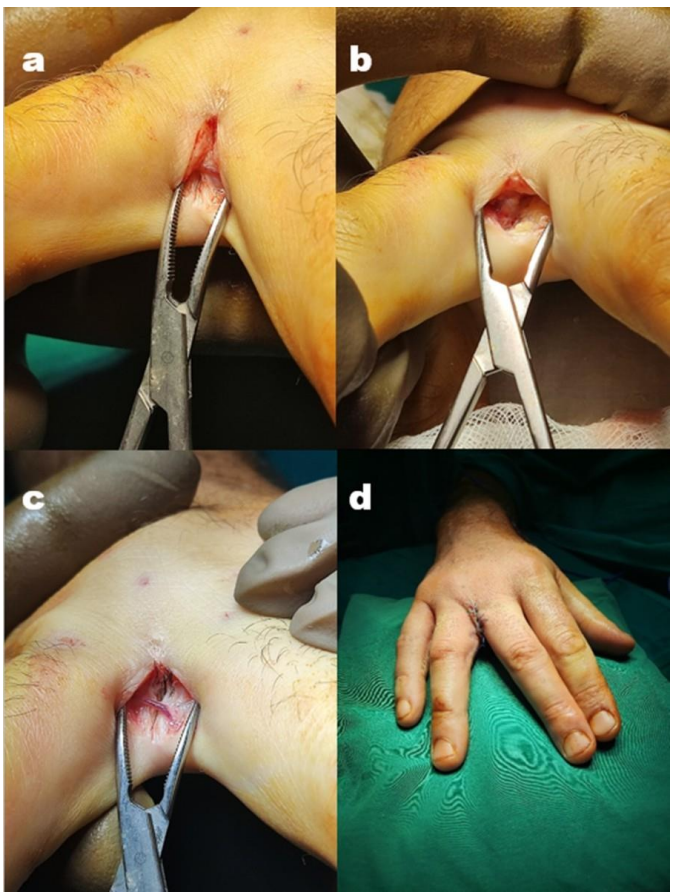

Figure 2. Intraoperative imaging **a)** opening of the sinus tract, **b)** dissecting the cyst, **c)** the appearance of hair follicles, **d)** primary closure of the wound.

to cysts and fibrotic cicatricial tissue [9]. Abscess development, cellulitis, lymphangitis and osteomyelitis are other complications that may develop in interdigital pilonidal sinus [7].

Surgical treatment involves techniques such as excision with primary or flap closure, or excision with secondary healing, which can provide definitive treatment [10]. However, despite surgical intervention, the disease has a tendency to recur [10]. In most cases of late recurrence reported in the literature, the cause is attributed to patients returning to their profession and re-exposing the risk factors that led to the disease [10]. Symptomatic treatment is the only option: complete excision of the affected scar and fistula tissue. Causal treatment is only possible by abandoning their profession [2].

Careful cleaning and drying of the interdigital spaces, as well as the use of protective barrier creams, adhesive tape-type strips, collodion or fingerless gloves, can prevent the disease from occurring [1,5,6]. It is also recommended that hairdressers wear socks and shoes that do not leave their feet exposed to prevent the formation of pilonidal sinuses on the feet [1,5].

Pilonidal sinus, which occurs in the interdigital spaces of the hand, in other words, its true definition is interdigital hair pocket disease, is a rare and preventable acquired occupational disease. Maintaining good personal hygiene by thoroughly removing hairs that penetrate the epidermis throughout the workday can prevent the disease. Surgical excision, curettage, and primary healing are considered safe treatment options.

Author contributions

All authors contributed to the study conception and design. Material preparation, data collection and analysis were performed by Mİ and HY. The first draft of the manuscript was written by Mİ and HY and all authors commented on previous versions of the manuscript. All authors read and approved of the final manuscript.

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Conflict of Interest

The authors declare that they have no conflict of interest.

Ethical statement

The authors confirm that this retrospective study was conducted in accordance with the ethical standards set forth in the Declaration of Helsinki and its later amendments.

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