

Interdigital pilonidal sinus of the foot: An unusual presentation of occupational dermatoses

Dear Editor,

A 27-year-old man, a hairdresser by profession, presented with complaints of intermittent pain and purulent discharge from the interdigital web space and lateral aspect of his right foot. The symptoms persisted over the past two years and were associated with local discomfort during walking and standing for prolonged period. The patient denied any prior history of trauma, thorn prick, or discharge of granules. There were no systemic symptoms such as fever or weight loss. There was no history of immunosuppression or diabetes. He reported working barefoot in his salon routinely, sweeping hair fragments and standing for extended hours.

Cutaneous examination revealed 2-3 sinus openings in the fourth interdigital web space [Figure 1], a crusted papule on the dorsal aspect of the fourth webspace [Figure 2], and the lateral aspect of the base of the fifth toe of the right foot [Figure 3]. The area showed mild erythema, maceration, and seropurulent discharge. On gentle probing, multiple short hair fragments were visualised and extracted from within the sinus tracts using artery forceps. There was no regional lymphadenopathy. Routine blood investigations were within normal limits, and an X-ray of the right foot ruled out osteomyelitis or foreign body calcification.

Based on clinical features and the presence of embedded hair shafts, a diagnosis of interdigital pilonidal sinus of the foot was made. Under local anaesthesia, the sinus tracts were explored, and complete removal of hair fragments and granulation tissue was performed. The wound was irrigated and allowed to heal by secondary intention. Postoperative recovery was uneventful. The patient was advised on maintaining good foot hygiene and instructed to wear closed footwear at work, avoiding barefoot exposure to prevent recurrence. At the six months follow-up visit, the patient reported no recurrence, and the surgical site had healed well with minimal atrophic scarring.

Interdigital pilonidal sinus (IPS) is a rare but well-established occupational dermatosis predominantly observed in barbers,

hairdressers, and animal groomers due to their constant exposure to sharp cut hairs. These hairs, often less than 1 mm in diameter and tapered at both ends, behave like tiny needles, penetrating the moist, macerated skin of the interdigital areas.^{1,2} Most cases documented involve the web spaces of the non-dominant hand, where hair fragments become implanted through repetitive motion and minor trauma. Once embedded, the hair triggers a granulomatous foreign body reaction, leading to sinus tract formation and secondary infection.³ The diagnosis is mainly clinical, but in recent times, ultrasound imaging has helped in diagnosing a few cases.⁴ Management of these cases includes irrigation of the sinus along with probing and extraction of the cut hair pieces from the sinus. Sometimes, primary closure is also preferred for better healing.⁵ The differentials of toe sinuses include osteomyelitis, mycetoma, botryomycosis, and foreign body in the absence of hair projection. However, lack of swelling and grains and presence of hair follicles on glabrous skin ruled out all these differentials.



Figure 1: Sinus tract in the fourth interdigital space of the right foot showing hairs emerging out. (hairs marked with red arrows)

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Figure 2: Crusted papule and sinus tract on the dorsal aspect of the fourth web space.



Figure 3: Sinus on the lateral aspect of the fifth toe of the right foot, showing hair emerging out. (hair marked with red arrow)

Foot involvement in IPS has been rarely reported. On review of English literature, we did not come across IPS involving feet. Barefoot exposure during hair cutting, particularly in tropical and humid environments, may predispose the skin of the feet to maceration and increased vulnerability to hair penetration.

This case underscores the significance of obtaining a thorough occupational history and maintaining a high index of suspicion for IPS in patients presenting with chronic sinus tracts at unusual sites. It also highlights an unusual presentation of interdigital pilonidal sinus on the foot of a barber, a rare site for occupational dermatosis. Preventive measures, including appropriate footwear and foot hygiene, alongside timely surgical intervention, ensure excellent outcomes and minimise recurrence.

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