

Cutaneous Tuberculosis Presenting as a Non-Healing Hand Wound: A Case Report

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Introduction

Skin and soft tissue infections (SSTIs) are commonly encountered in daily clinical practice, with most cases caused by bacterial pathogens. However, in some patients, chronic, non-healing wounds may indicate an atypical infection. When conventional treatments fail and healing is delayed, mycobacterial skin and soft tissue infections should be considered as a potential underlying cause.

Case presentation

A 72-year-old housewife with a medical history of (1) type 2 diabetes mellitus managed with oral hypoglycemic agents, (2) hypertension under medical control, (3) total knee arthroplasty, and (4) L3/4 burst fracture with spinal stenosis and bilateral lower limb weakness, was admitted via the emergency department due to a chronic purulent wound on the right hand persisting for three months.

Approximately three months prior to admission, she developed a protuberance near the right wrist accompanied by a small draining sinus with pus discharge. Subsequently, multiple wounds with copious purulent discharge formed on the right palm and dorsum of the hand. Notably, a lesion over the right fourth metacarpophalangeal joint was connected to the palmar wound [Figure1&2.]. In the days leading up to admission, the patient experienced pain, swelling, redness, and mild localized warmth in the right hand, but retained functional mobility. She reported no systemic symptoms such as fever or chills.

Due to the chronic nature of the wound and inadequate response to initial care, she underwent fasciotomy and surgical debridement. Intraoperative cultures revealed methicillin-resistant *Staphylococcus aureus* (MRSA), along with positive acid-fast staining (2+) [Figure5] and *Mycobacterium tuberculosis* complex (MTBC) detection at 10^6 CFU/mL using the MTB Detected Medium assay.

Based on these results, treatment was initiated with Clindamycin and Akurit-4 (fixed-dose combination anti-tuberculosis regimen). The patient subsequently showed clinical improvement, with reduced purulent discharge and progressive wound healing [Figure3&4.].

Discussion

Cutaneous tuberculosis typically manifests as a chronic, non-healing wound and poses significant treatment challenges. Effective diagnostic tools are crucial for detecting *Mycobacterium tuberculosis* and guiding appropriate therapy.



Figure 1&2: Right palm and dorsum before debridement



Figure 3&4: Right palm and dorsum after debridement and treatment with Clindamycin and Akurit-4

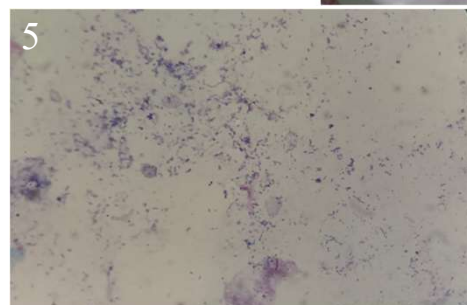


Figure 5: Acid-fast staining with *Mycobacterium tuberculosis*

