

Subcutaneous nodules with sporotrichoid spread in the forearm of a patient with rheumatoid arthritis

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A 60-year-old Caucasian male patient came to our department with complaints of erythematous nodules of the left forearm. These lesions appeared four weeks prior to our observation, were slightly tender and begun in the left wrist, increasing in number in a sporotrichoid pattern until the vicinity of the elbow (Figures 1 and 2). The patient assured us that there was no history of recent trauma nor gardening, aquarium cleaning, trips to tropical destinations, home pets or other environmental exposures. His background medical history included steroid-dependent seronegative rheumatoid arthritis diagnosed 20 years ago, which was long term treated with prednisone 20 mg once daily and naproxene 500 mg twice daily. Blood tests revealed a mildly raised white cell count with no other values out of normal range. Rheumatoid factor was negative. The initial clinical diagnosis included sporotrichosis, pyoderma gangrenosum, rheumatoid nodules and mycobacterial infection (*M. tuberculosis* or other).

An incisional biopsy was taken from one of the lesions and its histologic examination revealed dense neutrophilic collections within the deep dermis and subcutaneous fat with spaces containing pale filamentous matter (Figure 3). These filaments were weakly positive to periodic acid Schiff and positive for Zeihl-Neelsen stains. PCR of the paraffin-preserved specimen allowed the identification of *Mycobacterium chelonae*. A new biopsy was done for microbiological culture of fresh tissue confirming the same organism. The patient was then treated with clarithromycin 500 mg twice daily for six months with total regression of the nodules, with residual post inflammatory hyperpigmentation in the area corresponding to the lesions (Figure 4).

M. chelonae is a rapidly growing *Mycobacterium*

species that is found worldwide in soil and water. It has been implicated in skin, soft-tissue, bone, eye and pulmonary infections¹. In immunocompetent patients, cutaneous infection with atypical *Mycobacterium* is usually associated with a skin portal of entry secondary to trauma, and gives rise to a localized lesion. In the immunosuppressed patient, cutaneous disease may be disseminated with multiple subcutaneous nodules in a lymphatic drainage area (sporotrichoid spread pattern)²⁻⁴. Conditions associated with this infection include organ transplantation, renal dialysis, rheumatoid



FIGURE 1. Erythematous nodules in sporotrichoid distribution in the left forearm of a 60-year-old rheumatoid arthritis patient



FIGURE 2. Close-up of two nodules: slight peripheral desquamation (collarette)

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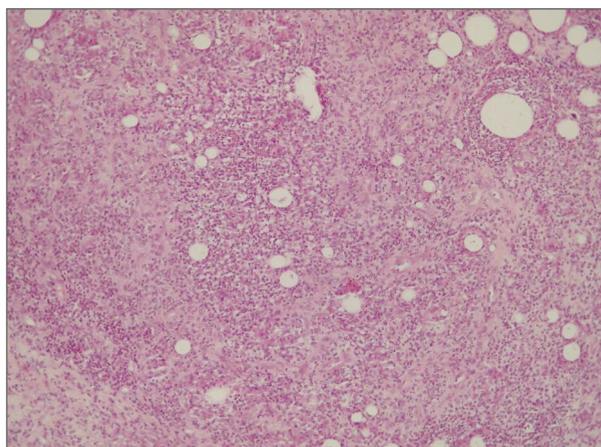


FIGURE 3. Histopathological findings: diffuse dermal inflammatory infiltrate composed of neutrophils; clear lacunae containing pale filamentous matter are also evident (H&E, original magnification x40)



FIGURE 4. Six months after clarythromycin treatment: complete regression of erythematous nodules with residual post-inflammatory hyperpigmentation

arthritis and other autoimmune diseases⁵.

PCR is a valuable aid to diagnosis because of its high sensitivity, but false-positives can occur, as the organism is ubiquitous in the environment. *M. chelonae* is resistant to most standard anti tuberculous drugs. Macrolides are the most effective antimicrobials with clarithromycin the drug of choice. The use of this drug in monotherapy for six months is likely to result in cure. In case of intolerance to clarithromycin, combination treatments can be used with other antibiotics, such as doxycycline, ofloxacin, amikacin and linezolid³.

M. chelonae is a potential pathogen in patients on immunosuppressive therapy. As use of a immunosuppressive drugs increases in a large variety of rheumatological diseases, we must keep in mind atypical mycobacteria in the differential diagnosis of dermatological conditions in such patients³.

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