

## DIGITAL SARCOIDOSIS WITH NAIL DYSTROPHY

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### CASE REPORT

A 51-year-old man with biopsy-proven cutaneous and pulmonary sarcoidosis presented with chronic painless swelling in both fourth fingers and nail dystrophy bilaterally. The patient had been off all systemic treatment for years. He reported a history of a brain tumor diagnosed many years prior. Physical examination demonstrated bulbous swelling of the distal fourth digits, with severe onychodystrophy, and pterygium (Figure 1A, 1B).

Magnetic resonance imaging (MRI) of the bilateral hands revealed diffuse loss of normal bone marrow signal within the fourth distal phalanges with marrow replacement and enhancement (Figure 2). The subcutaneous fat around the distal phalanx had been replaced with tissue exhibiting isointensity on T1-weighted imaging (Figure 2) and mild hyperintensity on T2-weighted imaging, suggestive of tissue infiltration and consistent with a known diagnosis of granulomatous disease.

Based on these findings, bone and nail biopsy were deferred. The patient was diagnosed with osseous and nail sarcoidosis. Subsequently, medical records were able to be obtained, which revealed that his brain tumor was biopsy-proven neurosarcoidosis. He was started on infliximab for treatment of multi-organ sarcoidosis. Nail and bony changes in sarcoidosis are rare and associated with systemic disease (1). Nail changes include longitudinal ridging, onycholysis, pterygium, clubbing, splinter hemorrhages dystrophy, and nail loss (1). Differential diagnosis of nail changes in sarcoidosis is extensive, and includes psoriasis, lichen planus, and onychomycosis (1). Nail changes in sarcoidosis indicate the presence of sarcoidal infiltration of the distal phalanges, which may be asymptomatic or painful, and which may progress to cystic changes on imaging (1,2). Small bone sarcoidosis was once considered the most common manifestation of sarcoidosis of sarcoïd bone involvement; however, imaging now frequently reveals asymptomatic involvement of the axial skeleton and larger bones (2). The MRI findings of bone marrow replacement and enhancement with subcutaneous tissue infiltration are suggestive of granulomatous disease, though this may be observed in malignancy, metastatic disease, and disseminated granulomatous infection (3). The primary differential diagnosis of small bone sarcoidosis is rheumatoid arthritis, which may be differentiated clinically. Recognizing the characteristics of bone and nail findings in the setting of known or suspected

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**Figure 1A, 1B.** Bulbous swelling of the 4<sup>th</sup> digits with onychodystrophy.



**Figure 2.** Diffuse bone marrow signal loss within the fourth distal phalanges with marrow replacement and enhancement (arrowhead). The infiltration of isointense tissue is seen at the distal fourth digit (\*).

sarcoidosis should prompt further evaluation for multi-system disease involvement and pursuit of multidisciplinary care.

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