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Rare case of *Nocardia mycetoma* in an immunocompetent host

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Background: A mycetoma is a chronic progressive subcutaneous granulomatous disease caused either by fungi or filamentous bacteria like *Nocardia* and *Actinomyces*. Mycetomas have a geographical predilection for arid regions with little rain, classically between latitudes of 15° South and 30° North. Traumatic inoculation in conjunction with soil exposure is thought to be the etiology, but there have been reports without a suggestive history.

Case Report: A 72 year-old Caucasian female in Jacksonville, FL with no significant past medical history developed a grey macule on her left cheek without any inciting event or exposure. The lesion became indurated and she was treated for cellulitis with Doxycycline and Bactroban. The lesion progressed and she presented to a dermatology clinic where she was found to have a mycetoma with cultures positive for *Nocardia*. She was admitted to Mayo Clinic. She was non-toxic throughout her stay and workup found no evidence of cranial or systemic spread, HIV, or immunocompromise. She was discharged on Bactrim and Minocycline for 3-6months and Meropenem for 20 days with further management to be tailored per susceptibility results.

Discussion: This case details a cutaneous *Nocardia* infection in a medically healthy and immunocompetent individual without any exposure or occupational history. It occurred in northern Florida, within the classical latitudinal distribution. Within the United States, only Florida and southern parts of Texas and Louisiana share this characteristic. Mycetoma should be included in the differential of complex, treatment-resistant cutaneous lesions even when trauma or exposure is not suggestive, especially in low latitude regions. There is recent concern of increasing *Nocardia* resistance to sulfa agents. Studies recommend carbapenems in suspicious cases. For cases of *Nocardia mycetoma* in the immunocompetent patient, we recommend oral Bactrim and Minocycline for 3-6 months. During the susceptibility unknown interval we recommend treatment with Meropenem.

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