Teaching NeuroImages: CNS actinomycosis in an immunocompetent patient

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Figure CNS actinomycosis

(A) Noncontrast head CT, (B) contrast head CT, (C) MRI T2 fluid-attenuated inversion recovery, and (D) sagittal T1 postgadolinium images demonstrated multiple ring-enhancing lesions in right parietal and frontal lobes with surrounding vasogenic edema. (E) Photographs of the fifth digit showed subcutaneous nodules and (F) Gram stain of brain biopsy revealed actinomycosis.

A 70-year-old woman presented with a 2-week history of left hemiparesis. She had no history of fever or of risk factors for opportunistic infections. Physical examination revealed subcutaneous nodules on her fifth digit, left hemiparesis, and dysarthria. Neuroimaging revealed ring-enhancing masses (figure, A–D). Brain and skin biopsies revealed mixed infection with *Actinobacillus actinomycetemcomitans* and *Actinomyces israelii* (figure, E and F). Clinical improvement was observed following intracranial abscess drainage and parenteral penicillin followed by prolonged oral amoxicillin.

CNS actinomycosis is a rare infection which must be identified to ensure appropriate antimicrobial choice.¹ A common presentation is cerebral abscess^{1,2} in immunocompetent patients.²

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