All that Ulcers is not Vasculitis— The Case of a Mistaken Identity

A 41-year-old man presented with shortness of breath, hemoptysis, and fatigue for 1 week. His baseline creatinine was 2.3 mg/dl and increased to 8.3 mg/dl over 2 weeks. Urine analysis showed 23 RBCs/hpf and 5WBCs/hpf with 2 + albumin. A clinical diagnosis of rapidly progressive glomerulonephritis (RPGN) with pulmonary–renal syndrome was made. His physicians then prescribed him steroids at 1 mg/kg/day. After initiation of prednisolone for a month, his clinical condition worsened with the development of ulcers on his fingertips.

He presented our institution with tachycardia and tachypnea. His chest X-ray showed multiple cavitary lesions with air–fluid levels [Figure 1]. His creatinine was 8.34 mg/dl and he had severe metabolic acidosis. He was offered emergency hemodialysis and a chest tube was inserted into the pleural cavity to drain the empyema that was identified on the CT thorax. Pus from the empyema grew gram-positive filamentous bacteria which was speciated *as Nocardia farcinica*. He also complained of blurring of vision. Ophthalmology evaluation revealed a subretinal mass in the fovea of the left eye [Figure 2]. An MRI identified multiple micro-abscesses in the brain. For retinal involvement, ceftriaxone was administered as an intravitreal injection. He was diagnosed with disseminated nocardiosis with *Nocardia farcinica* involving his brain, lung, skin, and eye with an acute kidney injury. With good supportive care, he showed improvement in renal function and was gradually weaned off dialysis. Vasculitic markers, including ANCA, ANA, C3, C4, anticardiolipin, lupus anticoagulant, Beta2 glycoprotein, and anti-GBM serology, were all negative. His clinical condition improved, the chest tube and dialysis catheter were removed, and he was discharged home with a course of oral antibiotics (sulfamethoxazole/trimethoprim and moxifloxacin) for 6 months after 8 weeks of IV therapy (meropenem and septran).

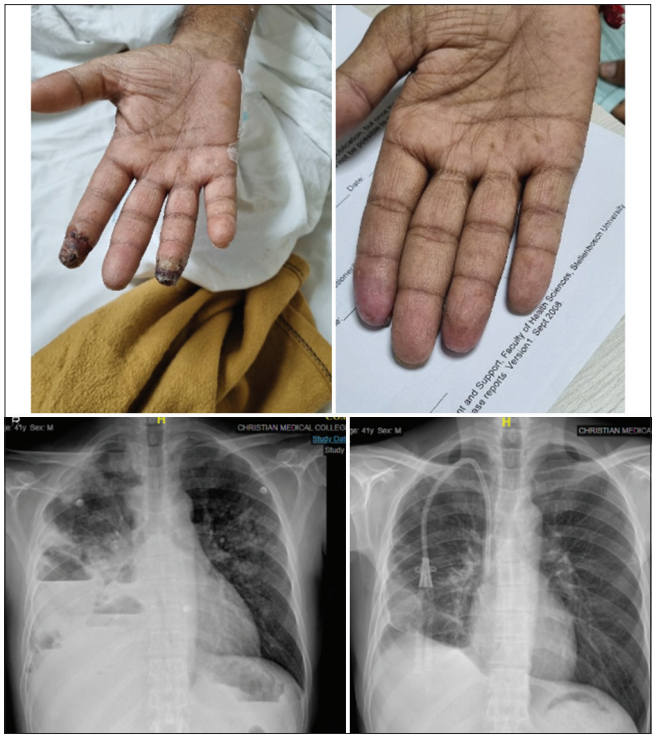

Figure 1: The image on the upper left shows the right hand of the patient with multiple ulcerations and digital gangrene over the pulp of the right index finger and ring finger. The subsequent image on the upper right shows resolution of these changes after 8 weeks of Intravenous antibiotic therapy. The chest X-ray PA view on the lower left side of the image shows multiple air-fluid levels in the right lung involving the right middle and lower zone. The second X-ray on the lower right side of the image was taken after 3 months of therapy with antibiotics and shows significant resolution. There is a tunneled catheter in-situ

Nocardiosis has been known to mimic several other diseases. One of the closest mimics is malignancy. In patients with malignancy, the appearance of new nodules in the lung or brain is often perceived as metastatic lesions.[1] In another case report, a patient with sarcoidosis was perceived to have a brain mass (initially thought to be a metastatic malignancy) but on aspiration revealed *nocardia farcinica* infection.[2] It may also closely mimic tuberculosis or chronic fungal diseases because of the pulmonary involvement and chronic indolent course. One of the most difficult diseases to decipher from nocardiosis is vasculitis. This problem was highlighted in a case report published in 1986, which described a 45-year-old gentleman who had cavitary pulmonary lesions, finger pulp infarcts, and a red macular rash in his lower extremities.[3] This patient was initially diagnosed with granulomatosis with polyangiitis, previously known as Wegner's granulomatosis, and treated with cyclophosphamide and steroids. When he later developed a subcutaneous abscess, drainage and culture led to a correct

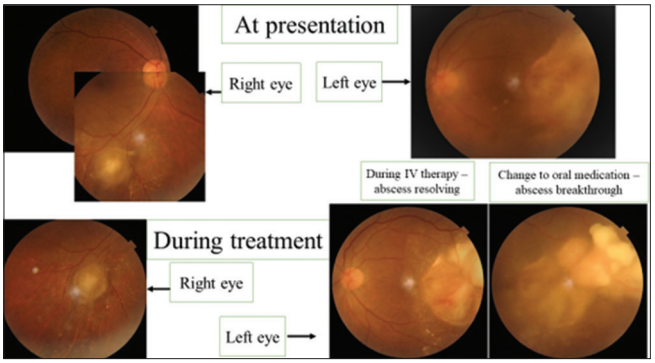

Figure 2: Shows photomicrographs of both eyes prior to and after treatment. Prior to treatment, the left eye showed a large, raised, sub-retinal mass in the fovea. The right eye shows a small lesion along the infero-temporal arcade. After treatment with antibiotic therapy, the right eye showed significant resolution of the lesion while the left eye showed a clear abscess which was treated with an Intra-vitreal Ceftriaxone

diagnosis of disseminated nocardiosis. This presentation was similar to the case described in this hospital. Nocardia is a prodigious masquerader and may fool the clinician into making a diagnosis whose treatment is diametrically opposite to that of nocardiosis, as in this instance.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms.

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Conflicts of interest

There are no conflicts of interest.

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