**ABSTRACT**

Disseminated nocardiosis is an opportunistic infection most often seen in the immunocompromised population. While more than 80 Nocardia species have been discovered, this is the first confirmed case of *Nocardia beijingensis* causing disseminated infection in a renal transplant patient in the United States.

**RESULTS**

The patient's CNS symptoms have resolved. Serial imaging has continued to show improvement. He is being followed in the outpatient clinic and continues to do well.

**DISCUSSION**

Different *Nocardia* species have variable pathogenic traits, wide geographic distributions, and antimicrobial susceptibility characteristics. Hence, the identification of the specific species of *Nocardia* is crucial to provide a proficient level of patient's care. The most commonly affected organs by *Nocardia* are the lungs, mainly via inhalation; however, the most common extrapulmonary site is the central nervous system (CNS). Among those infected, the most common group is the immunocompromised population. *Nocardia beijingensis* is a newly discovered species of *Nocardia* that was first isolated in China in 2001. The first case of *Nocardia beijingensis* in the United States was described in a Caucasian male in Florida who had pulmonary nocardiosis. Only six cases of *N. beijingensis* affecting CNS have been reported to date in the United States. Although the source of our patient’s infection was postulated to be originated from inhalation of soil brought from foreign origin, it is also highly likely that this species is ubiquitous worldwide. In general, *Nocardia beijingensis* is susceptible to TMP-SMX and can be successfully treated with Imipenem, Tobramycin, and Kanamycin although some cases of Imipenem resistance have been reported.

**CASE**

We present a 31-year-old Caucasian male status post renal transplant 4 years ago, with headache radiating to the neck with associated nausea, photophobia, and phonophobia. The patient reported an increasing intensity, frequency, and duration of left upper extremity myoclonic jerks.

CT imaging revealed a consolidative process in the right lower lobe of the lung and multiple ring-enhancing lesions within the bilateral cerebral hemispheres. Patient underwent left frontal craniotomy with resection and a complete evacuation of brain abscess. Brain abscess and pleural fluid cultures revealed Gram positive rods, which were subsequently identified as *Nocardia beijingensis* by MALDI-TOF and confirmed by 16s rRNA sequencing.

Upon further questioning, the patient reported frequent landscaping work with soil and vegetation that had been brought from Eastern Europe.

**INTERVENTION/TREATMENT**

Due to suspicion of infectious etiology, Mycophenolate and Tacrolimus dosages were temporarily reduced. Patient was treated with IV vancomycin and meropenem, but the patient continued to decline. After isolation of Nocardia, the patient was started on IV Trimethoprim/Sulfamethoxazole (TMP-SMX) (15 mg/kg of TMP) with IV Imipenem 500 mg Q6hr, and Vancomycin and Meropenem were discontinued. Our patient developed hyperkalemia and anemia after 4 weeks of therapy at which time we discontinued TMP-SMX with Imipenem-Cilastatin and started Linezolid with Ceftriaxone. After completion of 6 weeks of therapy, he was switched to oral Amoxicillin Clavulanate and a reduced dose of TMP-SMX.

**REFERENCES**