**Nocardiosis In A Renal Transplant Patient: A Case Report And Review Of Literature**

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**Introduction:** Nocardiosis is a rare and systemic disease that occurs in up to 5% of renal transplant recipients. Amongst patients with nocardiosis, central nervous system (CNS) involvement is seen in approximately 50% of cases. We report a patient with a remote history of renal transplantation who was found to have multiple brain abscesses consistent with nocardia infection.

**Case:** A 66 year-old male with prior history of living donor renal transplant approximately 4 years ago presented for evaluation of progressive dizziness, nausea and vomiting. MRI of the brain revealed the presence of a peripherally enhancing lesion in the medial right cerebellum (14 mm x 13 mm x 12 mm) in addition to 2 smaller lesions in the right frontal lobe. CT chest revealed the presence of several small pulmonary nodules in both the lungs. With the history of present use of mycophenolate mofetil and tacrolimus, there was a concern for brain abscess versus malignancy. The patient was started on IV trimethoprim/sulfomethaxozole in addition to vancomycin and ceftazidime with plan for aspiration and culture of the abscess. Immunosuppression was modified due to concern for worsening kidney function, which was thought to be due to calcineruin toxicity. However, false elevation in creatinine secondary to trimethoprim was also considered. Aspirate of the culture revealed the presence of branching gram-positive organisms consistent with nocardia. Vancomycin was switched to linezolid and ceftazidime to imipenem with a plan to continue IV antibiotics for 6 weeks. Patient was later discharged to an acute rehabilitation facility with Nephrology and Infectious Diseases outpatient follow up.

**Discussion:** Nocardiosis is seen commonly in the intense immunosuppression period after renal transplantation (which is 1-6 months) or following high dose therapy for rejection. The primary site of involvement is the pulmonary system, but spread to the CNS as in our case can also occur. Risk factors for development of nocardia include multiple rejection episodes, worsening kidney function as well as high dose immunosuppression. Empiric antimicrobial therapy is often recommended, as it is very slow growing. Trimethoprim/sulfomethaxozole is first line therapy for management of nocardia brain abscess due to good penetration of sulfonamides. The mortality rate in immunosuppressed patients has been reported to be up to 50%. Hence, a high degree of clinical suspicion is necessary when such CNS findings are observed in renal transplant recipients.