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A case of unusual complication of deep brain stimulator

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Objective: The objective is to describe a case presenting with an atypical complication of deep brain stimulator lead infection.

Background: Deep Brain Stimulation (DBS) is the most frequent neurosurgical procedure for movement disorders. While this elective procedure carries a low risk profile, it can cause complications such as lead malfunction (5.7%), infection (1.2%), infarct without intracerebral hemorrhage (0.8%), and intracerebral hemorrhage (2.5%) and a permanent deficit (0.2%).

Design & Results: A 47-year-old right-handed man with a history of dystonia was treated with DBS placement in July 2015. He presented three months later with a one-week history of headache, mild confusion, and right facial asymmetry. Computerized Tomography (CT) of the head showed a large area of hypoattenuation along the left intracranial lead with midline shift, suggestive of an infectious process. Magnetic Resonance Imaging (MRI) with and without gadolinium contrast showed an area of hypointensity surrounding the left lead without contrast enhancement. Cerebrospinal Fluid (CSF) studies showed three white blood cells with lymphocytic predominance; CSF glucose was 54 mg/dl; protein was 25 mg/dl; and CSF cultures along with blood cultures were negative. Patient's symptoms improved on intravenous board spectrum antibiotics, and surgical intervention was postponed due to the patient's clinical improvement.

Conclusion: The clinical response of this patient to antibiotic treatment in a case of atypical presentation of deep brain stimulator lead infection without contrast enhancement suggests that early recognition and treatment may obviate the need for more aggressive intervention, i.e., surgical removal of the lead.

Biography

Orwa Aboud is currently a Resident Physician and Senior Research Investigator at the Departments of Neurology and Geriatrics/Donald W Reynolds Institute on Aging (RIOA), University of Arkansas for Medical Sciences (UAMS). He has made several novel and unique discoveries in the research areas of neurodegeneration and neuroinflammation, particularly on Alzheimer's disease. He has been playing a key role in the significant research projects including those supported by the National Institutes of Health (NIH) and National Institute on Aging (NIA) on the studies on influences of APOE genotype on cellular and molecular responses in epilepsy and Alzheimer pathology in Olfactory bulb; early events in Alzheimer pathogenesis; and development of a functional screening assay for the leading Alzheimer Disease (AD). His achievements have been extensively shared and recognized throughout the cutting-edge research field of neuroscience.

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