CAROLINAS REHABILITATION

Atrium Health

Neurosarcoidosis presenting as ischemic brainstem infarct A Case Report.

Lauren Mogk DO, Ryan McCarter MD, Chandee Payne DO
Carolinas Rehabilitation
Department Of Physical Medicine and Rehabilitation

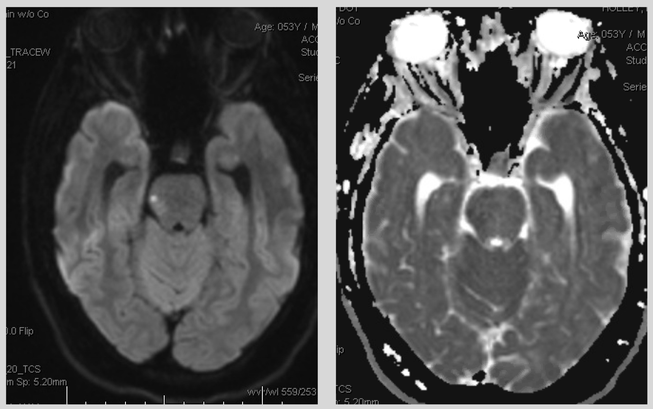
Introduction

Sarcoidosis is a granulomatosis inflammatory disease affecting multiple organ systems with an unknown etiology and worldwide prevalence. It is theorized that the disease cause is multifactorial, with environmental and genetic components playing a role in developing the disease. Often, sarcoidosis presents in non specific combinations of symptoms, however there are certain populations where the disease process is more prevalent. It has been established that there is an increased prevalence of the disease in those of the Nordic and African American patient population. In addition to racial differences in prevalence, there also exists certain risks factors that increase individual risk of developing sarcoidosis.

Risk Factors for Developing Sarcoidosis:

- Obesity
- Smoking
- Occupational (crystalline silica/mining exposure)

As mentioned above, sarcoidosis affects multiple organ systems. However, involvement of the nervous system appears to be less common that other locations such as the lungs, where the disease is most commonly observed. Neuro-sarcoid can affect any part of the brain, with cranial nerve involvement being the most common symptom.



Left: Hyperintensity on axial DWI and hypointensity on ADC (right image) consistent with right lateral pontine infarct

Case Report

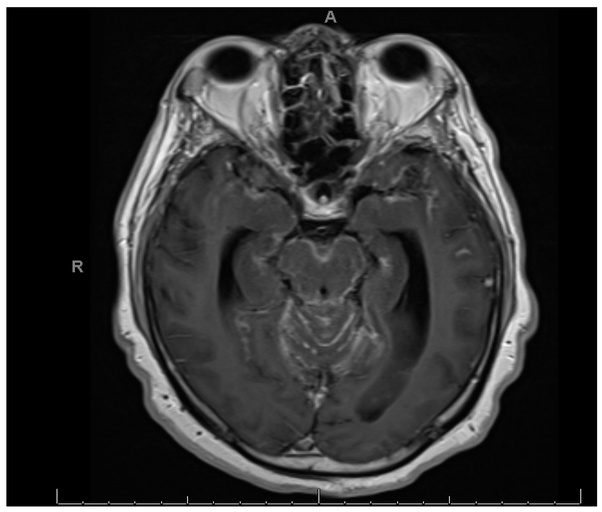
Setting: Large Academic Medical Center

Patient: 53-year-old male with past medical history of hypertension with newly diagnosed ischemic brainstem infarct

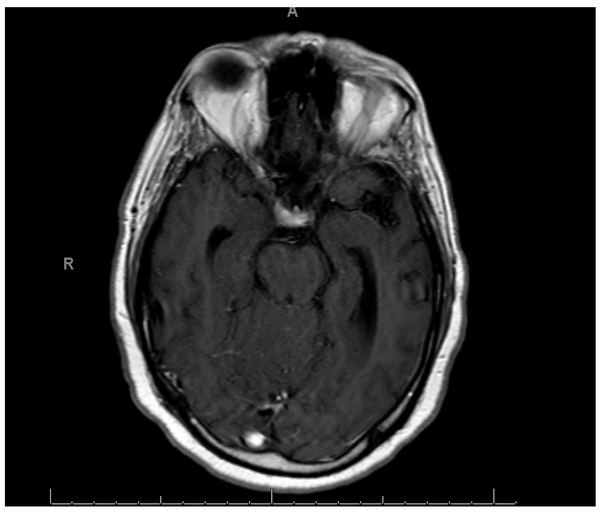
Case Description:

The patient was admitted to acute inpatient rehabilitation for ischemic right lateral pons infarct with noted ventriculomegaly. After several therapy sessions and evaluations, it became apparent that the patient's deficits were inconsistent with anatomical location of infarct seen on prior imaging. His symptoms, which couldn't be explained by his recent diagnosis, included urinary incontinence, bilateral lower extremity weakness, poor trunk control, and severe cognitive deficits. Patient's functional status at rehab was max assist for bed mobility, lower extremity dressing, and mod assist for transfers. Given concern for these symptoms and no prior imaging showing an etiology, imaging of the patient's spine was performed and showed lesions throughout the cervical and thoracic cord. Patient was readmitted to acute care for further workup, where imaging of the brain showed basilar leptomeningeal enhancement, as well as hilar and mediastinal lymphadenopathy. Additional workup included bronchoscopy with biopsies that were negative, CSF analysis showing low glucose, elevated protein, and lymphocytic pleocytosis, cultures negative for AFB and fungi. Patient underwent brain biopsy which was non-diagnostic. Afterward, the patient developed hydrocephalus and underwent EVD placement via neurosurgery, the patient was treated empirically for possible neurosarcoidosis/CNS tuberculosis with high dose steroids and RIPE, given questionable history of TB treatment in patient's youth.

Assessment/Results: At one month post RIPE and steroid initiation, patient has made progressive functional improvement, currently supervision for ADLs and min assist ambulating with a rolling walker.



T1- weighted with contrast MRI of the brain showing leptomeningeal enhancement prior to steroids and RIPE



T1- weighted with contrast MRI of the brain after steroids and RIPE demonstrating near resolution of leptomeningeal enhancement

Discussion

This report is to shed more light on neurosarcoidosis which is a rare condition. As mentioned, this patient presented with what was suspected to be a common diagnosis, however, his clinical course was atypical in stroke recovery during an acute inpatient rehabilitation stay. The patient's symptomology in the setting of his complex hospitalization will provide greater insight into the various clinical circumstances that may be seen in these rare disorders. Additionally, the successful treatment of this patients symptoms can serve as information for rehab physicians going forward regarding possible prognosis and outcomes.

Resources

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Contact Info

Lauren.Mogk@atriumhealth.org
Ryan.McCarter@atriumhealth.org
Chandee.Payne@atriumhealth.org