Spinal Cord Stroke in Endocarditis with Owl Eye Radiological Presentation

Dear Editor,

A 60-year-old, right-handed female patient with no past medical history was found unresponsive at home by her husband. She was taken to the regional hospital. On presentation, her Glasgow Coma Scale was 10, not fully awake, temperature of 38.5°C, tachycardia, and tachypnea. Her serum glucose was over 400 mg/dl which later confirmed to be new onset diabetes mellitus. She was started on broad-spectrum antibiotics and admitted to the intensive care unit. An emergent echocardiogram obtained due to positive blood cultures for Methicillin-sensitive *Staphylococcus aureus* later that day. Echocardiogram showed moderate mitral valve stenosis with mean gradient of 8.8 mmHg. Mitral annulus was severely calcified. The posterior leaflet showed minimal mobile 0.8 cm × 0.9 cm vegetation consistent with acute bacterial endocarditis. She was changed to nafcillin infusion for MSSA endocarditis. Due to her neurological status, an magnetic resonance imaging (MRI) of the brain obtained, which showed small acute or early subacute infarcts scattered throughout different vascular territories affecting both cerebral and cerebellar hemispheres, the brainstem and left thalamus [Figure 1]. She was transferred to our hospital for further care. On arrival, she was found to be confused, tachypnea and in pulmonary edema. She was emergently intubated and repeat echocardiogram did not show any acute mitral insufficiency, continue to have vegetation. Beside her decrease mentation, she was also had right upper extremity weakness. Next day, she was not able to move all four extremities to command and to painful stimulus. Due to the concern for epidural abscess, an emergent full spinal MRI requested. MRI full spine was obtained with contrast. There was short segment "owl eye" type signal alteration in the upper cervical spinal cord at the C2 level and a short segment "owl eye" type signal alteration in the upper thoracic spinal cord at the T3-T4 level. There was no epidural abscess [Figures 2 and 3]. With nafcillin infusion, repeat blood cultures were negative. There was no change over next week in her neurological improvement. Family declined prolonged ventilator support with tracheostomy and feeding tube placement.

Spinal cord stroke is not a common presentation in critical care practice. Here we describe a complex patient who developed quadriparesis after acute spinal cord ischemia. Owl's eyes have been described as a radiological finding associated with spinal infarction.[1] The prolongation of the time of the clearance time in T2 weighting leading to an increase in signal can be explained pathophysiologically by ischemic phenomena in the medullary gray matter. Multiple causes have been attributed such as cardiac surgery, vertebral disc disease, degenerative

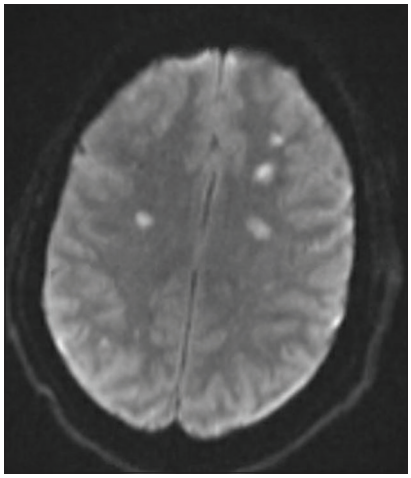

Figure 1: Brain MRI, DWI image, small bilateral embolic strokes. MRI: Magnetic resonance imaging, DWI: Diffusion-weighted imaging

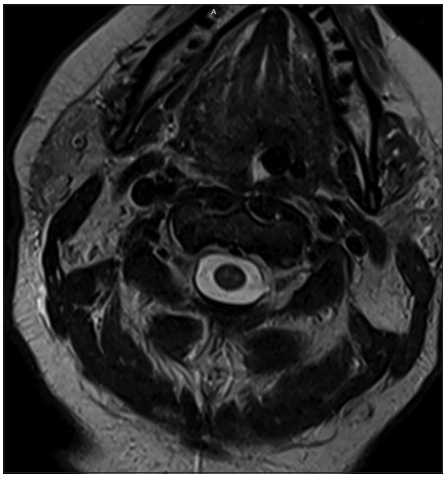

Figure 2: Cervical cord MRI, C 2 level, "Owl eyes" stroke. MRI: Magnetic resonance imaging

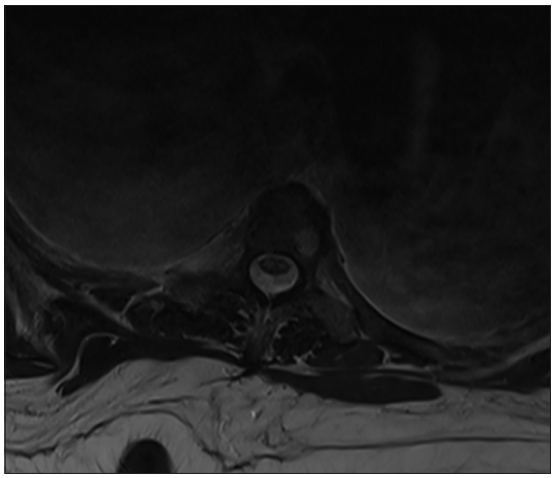

Figure 3: Thoracic MRI, T3 level showing "Owl eyes" stroke. MRI: Magnetic resonance imaging

spinal pathologies, vasculitis and infections, as presented in our case.[2,3] The case example also supports the importance of neuroimaging in the evaluation of spinal cord stroke in endocarditis.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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