Idiopathic Epidural Lipomatosis: An Unusual Cause of Lumbar Radiculopathy

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Spinal epidural lipomatosis (SEL) is a disease in which there is pathological overgrowth of the epidural fat surrounding the spinal cord. This overgrowth can result in compressive symptoms ranging from radicular to myelopathic symptoms via compression of the spinal cord. One of the main associations with this condition is the presence of increased steroids either exogenous (used as treatment for chronic conditions) or endogenous (Cushing's Syndrome/Disease) in the body. Idiopathic SEL is defined as without any history of steroid use or endocrine disorders. Idiopathic SEL predominantly affects males in which a majority of patients are obese.

A 52 year old male with a past medical history coronary artery disease, obesity, anxiety, and depression was referred to the pain management clinic for a possible epidural steroid injection. He reported progressive back pain with radiation to both legs in a multiple dermatomal pattern with associated weakness bilaterally. Symptoms started 4 years prior to presentation but only in the past 2 years began receiving medical attention. At initial presentation to his primary doctor, an MRI was done at that time (Figure 1) which showed mild degeneration without evidence of significant spinal or foraminal stenosis, with a report a 100 pound weight gain over the last 2-3 years. He initially tried non-steroidal anti-inflammatory medications, and then received gabapentin without significant relief (no steroids were tried). Following his MRI findings, an EMG and NCV were done which were inconclusive, Lyme ELISA was mildly positive, but had a negative western blot. At the time of initial presentation to the pain management clinic, neurological exam was remarkable for 4/5 lower extremity strength, decreased pin-prick sensation and patellar reflexes were found to be hyper-reflexive symmetrically. A repeat MRI was ordered of the thoracic and lumbar spine, which revealed interval development of mild to moderate diffuse spinal stenosis along with mild coalescence/clumping of the nerve roots possibly due to extrinsic spinal stenosis or arachnoiditis. Given these findings and physical exam, the decision was made to admit the patient, where an auto-immune workup was performed (which was negative) along with an MRI of the Cervical-Thoraic-Lumbar spine with and without contrast. The imaging confirmed the diagnosis of extrinsic spinal stenosis from epidural lipomatosis (figure 2) and the patient was discharged. Upon follow up with the pain clinic, he was referred to neurosurgery, who stated that there was no intervention needed at the time. The patient was placed on Baclofen for his somatic pain and a lumbar sympathetic block (LSB) was done (figure 3) for his neuropathic pain. A month after the LSB was performed, his pain was drastically reduced and his function was improved.

This case illustrates an example of idiopathic epidural lipomatosis and treatment options in a patient without the classically known risk factors (Cushing’s disease/syndrome, steroid use). There remains evidence to support that SEL is associated with obesity, particularly a rapid rise in weight,
affecting the lumbosacral spine as with this patient who demonstrated significant neurologic sequelae from his idiopathic epidural lipomatosis