Images in Spine Surgery: Spinal Epidural Pyaemia

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A 57 years old male insidiously developed neck pain, which progressively increased in intensity over the next 5 days. Pain was associated with a fever of 38.5°C. In the next 24 hours he developed unsteadiness of gait and weakness in arms and legs, more so on the left than right. Neurologic examination showed 2/5 and 0/5 motor strength in upper and lower extremity on the left side respectively. Sensations were altered in both lower limbs. His right upper and lower extremities showed a motor strength of 4/5 and 5/5 respectively. He was also found to have an inflamed and swollen olecranon bursa which was aspirated and sent for culture and sensitivity along with the blood samples. MRI examination showed an epidural abscess from C 3 to T 1. The abscess was predominantly compressing the left side of the spinal cord hence the predominance of left sided symptoms. He was emergently decompressed by doing a posterior hemilaminectomy from C2 to T1.Only left sided exposure was made and all midline bony and ligamentous structures were retained. Copious amount of thick yellowish pus was drained. His blood, epidural and olecranon pus cultures all grew staphylococcus aureus, sensitive to cloxacillin, which was continued for the next 6 weeks. Patient started improving neurologically within the next 12 hours and regained full normal motor strength and sensations in the next 48 hours.

Image 1. (a) T2 weighted MRI image, sagittal cuts, show epidural pyaemia from C3 to T1 (arrows). Significant compression of spinal cord can be seen posteriorly.

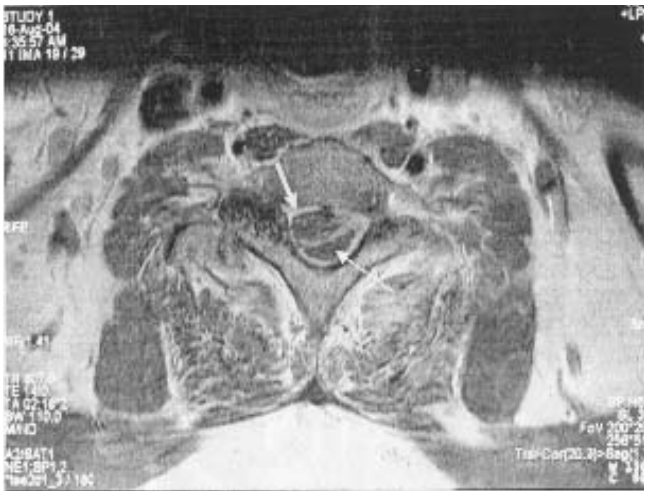

Image 1. (b) Compression of the spinal cord (bold arrow) predominantly on the left side, by epidural pyaemia (thin arrow).

Image 2. (a) Postoperative T2 weighted images show almost complete resolution of the spinal cord compression by the Pyaemia.

Commentary

Spinal epidural Pyaemia is associated with a very high morbidity and mortality rate.[1,2] Spinal epidural pyaemia is a very rare entity presenting in the sixth and seventh decade of life. Various risk factors like diabetes, intravenous drug abuse, contiguous soft tissue or bone infection, spinal interventional procedures, immuno-suppression and alcoholism, are described. It can present with back pain, fever and neurologic deficits including bladder and bowel incontinence. ESR, WBC count and blood cultures should be sent. Staphylococcus aureus is the most common

Image 2: (b) Complete decompression of the spinal cord , hemilaminectomy defect can be seen as well (Arrow).

offending organism. Gadolinium enhanced MRI (Gd-MRI) is the investigation of choice. Unlike unenhanced MRI scans, the hyperintense signal of the epidural mass on Gd-MRI allows for demarcation of the abscess from the nonenhancing thecal sac and neural elements.[3] CT myelography can be obtained in patients where MRI is contraindicated. CT myelography carries the risks of meningitis if the needle passes through the pyaemia. Surgical decompression is the cornerstone of treatment in patients with neurological deficits. Long term antibiotic administration should follow surgical decompression. Patients with no neurologic deficits, known and sensitive pathogen and with pyaemia location in lumbar or sacral region can be treated with antibiotics alone under strict neurologic and radiologic monitoring.[4]

References

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