Epidural Abscess

Key Points:
• Think of this diagnosis in patients with a predisposing factor (IVDU, immunosuppression) who present with fever and back pain
• On physical exam, check for saddle anesthesia or a sensory level, diminished rectal tone, and any evidence of motor weakness
• Emergent neuroimaging (with an MRI) is the standard of care
• Definitive therapy almost always involves surgical decompression and a prolonged course of antibiotics

I. Pathogenesis: May occur as result of either local extension of vertebral osteomyelitis/diskitis or hematogenous spread of bacteria from distant site of infection or endocarditis.

II. Epidemiology:
• Common in IV drug users, but may also occur after trauma, spinal surgery, or spontaneously
• 50% of patients have some form of underlying immunosuppression (DM, HIV)

III. Microbiology: Overwhelmingly S. aureus (2/3 of cases); also gram-negative rods, other staph and strep spp. Less common: anaerobes, TB.

IV. Clinical Manifestations:
a. Back pain (71%): may be reproducible on palpation
b. Fever (66%)
c. Progresses to neuropathic/radicular pain
d. With time, may progress to neurologic compromise, including:
   i. Decreased rectal tone
   ii. Saddle anesthesia, or sensory “level”
   iii. Motor weakness and, eventually, paralysis

V. Diagnosis: Once you suspect an epidural abscess, you are obligated to obtain emergent neuroimaging – and this is one of the things the MRI team will come in for on a weekend, in the middle of the night, whenever.
• MRI of the spine is the diagnostic test of choice
• Blood cx should be drawn, and you will probably need to sample the contents of the abscess under radiologic guidance to guide therapy
• LP is contraindicated so as not to spread infection into the CSF

VI. Management: If any evidence of neurologic compromise is present, epidural abscess is a neurosurgical emergency!
• Prompt surgical drainage is the definitive treatment; rarely, patients can be managed non-operatively.
• Empiric antibiotic coverage, while awaiting culture results, should include staphylococci, streptococci, gram-negative bacilli, and anaerobes (i.e., be broad!).
• As always, coverage should be narrowed once definitive culture results are available; antibiotic duration should be 4-6 weeks.

References