31F with H/O IVDA, with pain & weakness in shoulders & legs

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Gd-T1 Fat Sat Sagittal
Gd-T1 Fat Sat Axial
T1-Gd Fat Sat Sagittal
Simultaneous epidural abscesses of the cervical spine & lumbar spine
Prevertebral edema

T2 Sagittal CSpine

Slight decrease in CSF hyperintensity due to abscess
Rim-enhancing epidural process is typical of epidural abscess

Homogeneously enhancing prevertebral phlegmon

Homogeneously enhancing epidural phlegmon
Epidural abscess can be seen anteriorly compressing the spinal cord.

T1-Gd Fat Sat

Abscess

Spinal cord
Epidural abscess can be seen anteriorly compressing the spinal cord.
L5/S1 endplates & intervertebral disc are hyperintense, suspicious for diskitis.
T1 MRI sagittal view, post-contrast.

Rim enhancement usually key to distinguish epidural abscess from epidural phlegmon

Vertebral body enhancement

Epidural Abscess
Spinal Epidural Abscess: Etiology

• Purulent infections within the epidural space, between the dural sac and vertebral body
• Can quickly cause compression of the spinal cord or cauda equina
• Can occur secondary to any infection that results in bacterial sepsis/bacteremia
  – Bacteria can enter the epidural space through hematogenous spread or directly from iatrogenic causes
• Risk factors include IV Drug use, infective endocarditis, dental abscesses resulting in bacteremia, and any iatrogenic intervention that involves entering the epidural space (i.e. injections, catheter placement)
Presentation

• Classic “triad” is fever, spinal pain, and neurologic deficits
• Non-specific symptoms including fever, malaise, generalized pain
• Have a high suspicion in anyone who is a known IV-drug user or has bacteremia with new-onset back pain, weakness, sensory level
Diagnosis

• MRI Gd is needed to reliably distinguish abscess from phlegmon. However, even phlegmon may need decompression.
• STIR & T1 weighted images can be useful in detecting edema of marrow, prevertebral or paravertebral soft tissues
MRI findings

• Pre-contrast
  – Isointense or hypointense to spinal cord
  – Obliteration of normal epidural fat

• Post-contrast
  – Rim enhancement → Abscess
  – Homogeneous enhancement → Phlegmon
Management

- IV antibiotics targeted against the organism (most commonly Staph Aureus)
  - If blood cultures have yet to be drawn, draw two sets of blood cultures prior to initiating empiric antibiotics
- Urgent surgical decompression and drainage may be necessary if there is edema in the cord and concerning neurological deficits
Complications

• Without timely intervention, paraplegia or quadriplegia may result
References

