# When Back Pain Isn't Just Back Pain: Spinal Epidural Abscess in an Unhoused Woman With IV Drug Use History

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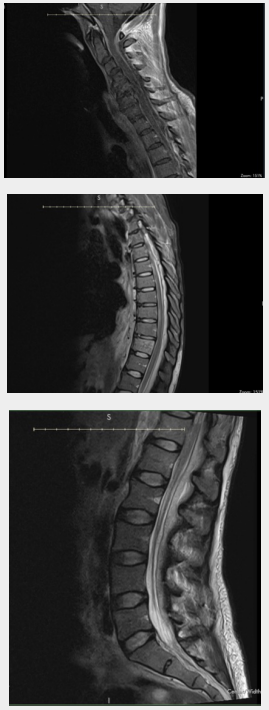
## Introduction

- Spinal epidural abscess (SEA) is a rare but potentially devastating spinal infection in which delayed diagnosis can lead to permanent neurologic injury or death.
- Intravenous drug use (IVDU) is a major risk factor, yet reliance on "red flag" symptoms and reassuring examinations can contribute to diagnostic anchoring and delay.
- This report describes a fatal case of extensive spinal epidural abscess in a woman with a history of intravenous drug use and recurrent "benign" emergency department presentations, and to highlight how reliance on classic red-flag findings and normal neurologic examinations can delay diagnosis in high-risk patients with back pain.

## Patient Description

- A 38-year-old unhoused woman with a history of intravenous heroin use, chronic low back pain, and tobacco use presented initially with several days of worsening lumbar pain.
- She denied fever, chills, weakness, sensory changes, saddle anesthesia, bowel or bladder dysfunction, or recent trauma, and reported no recent injection drug use.
- On first evaluation, her vital signs were normal, she did not meet SIRS criteria, and examination revealed no midline or paraspinal tenderness, with full strength and intact sensation in all extremities; basic laboratory testing, including complete blood count, was unremarkable without leukocytosis.
- She was diagnosed with musculoskeletal back pain, treated with non opioid analgesics, and discharged with outpatient follow-up instructions.
- Over the next 10 days, she re-presented to two additional emergency departments multiple times for worsening pain but continuing to deny neurologic symptoms or systemic complaints.
- She remained afebrile with preserved strength, normal gait, and no focal deficits.
- Inflammatory markers (ESR/CRP) and advanced spinal imaging were not obtained during these earlier encounters, and her diagnosis of mechanical or musculoskeletal back pain was maintained.
- At her fourth presentation, she appeared acutely ill, with hypotension, tachycardia, and altered mental status consistent with septic shock.
- Laboratory studies now demonstrated leukocytosis and lactic acidosis, and CT imaging of the chest showed multiple pulmonary nodules concerning for septic emboli, leading to initiation of broad-spectrum intravenous antibiotics and further workup.
- Transthoracic echocardiography did not reveal valvular vegetations or another clear cardiac source of emboli; however, given her persistent severe back pain, new lower extremity weakness, and systemic infection, MRI of the entire spine with gadolinium was obtained.

**Figures. MRI of cervical spine, thoracic and lumbar spine demonstrating SEA**



## Interventions

- MRI revealed a long segment dorsal epidural abscess involving the cervical, thoracic, and lumbar spine, consistent with extensive SEA (Figures).
- Blood cultures subsequently grew Staphylococcus aureus
- Given the diffuse multilevel involvement, chronicity of infection, and her critical condition, neurosurgical and orthopedic spine consultants concluded that decompressive surgery was unlikely to provide meaningful neurologic recovery.
- She remained in the intensive care unit on prolonged mechanical ventilation, ultimately required tracheostomy, and was transferred to a long-term acute care hospital; despite aggressive medical therapy, she died approximately three months later from complications of systemic infection and multisystem organ failure.

## Discussion

- This case illustrates how spinal epidural abscess can progress unchecked when clinical decision-making is anchored on the absence of fever, focal neurologic deficits, or abnormal basic laboratory studies.
- Despite multiple visits for worsening back pain and a known history of intravenous heroin use—one of the strongest risk factors for SEA—imaging and inflammatory markers were deferred..
- Earlier use of ESR/CRP and contrast-enhanced MRI in this high-risk context might have identified SEA at a stage when surgical decompression and targeted therapy could have limited neurologic injury and systemic complications.
- The case underscores the need for clinicians to treat IVDU, unstable housing, and recurrent back pain as red flags, maintain a low threshold for advanced imaging, and remain vigilant against diagnostic anchoring

## Conclusions

- This case illustrates how SEA in a patient with IVDU can be repeatedly overlooked when clinicians rely on normal neurologic examinations and the absence of classic red flags to exclude serious spinal infection.
- It underscores the importance of recognizing IVDU as a persistent high-risk feature, obtaining inflammatory markers, and maintaining a low threshold for contrast-enhanced MRI in high-risk patients with recurrent back pain, even when early findings are reassuring.
- Earlier consideration of SEA might have limited disease extent and preserved neurosurgical options; future work should focus on decision tools that integrate risk factors to guide imaging in ED patients with back pain.