

Epidural Abscess after Labor Epidural Analgesia

Jason J. White MD and Grace Fong MD

Department of Anesthesiology, Weill Cornell Medical College, New York, NY



Introduction

Neuraxial-related infections were the most common cause of neuraxial injury in the ASA Closed Claims Project (1980-1999)¹. Despite this, there is a very low incidence overall. Most abscesses present within five days of placement, with back pain as the most common symptom. Neurologic deficits may follow. Early detection is the key to recovery. Broad-spectrum antibiotics combined with surgical intervention is the gold-standard treatment.

Key Points

- Catheter-track -- *Staphylococcus aureus*²
- Hematogenous -- *Streptococcus* species²
- Risk factors include prolonged catheterization, immunosuppression, multiple insertion attempts, poor aseptic technique, lying in wet contaminated bed, absence of bactericidal local anesthetics²
- Epidural hematoma can be a nidus for infection
- Prevention includes thorough history, careful exam of site, strict sterile technique, managing disconnections appropriately, limiting catheter time³

Case

•25 yo G1P0 at 38 weeks presented with severe, painful itching over her body,. Diffusely raised and mildly erythematous papules on bilateral legs, back, and arms with excoriations were observed.

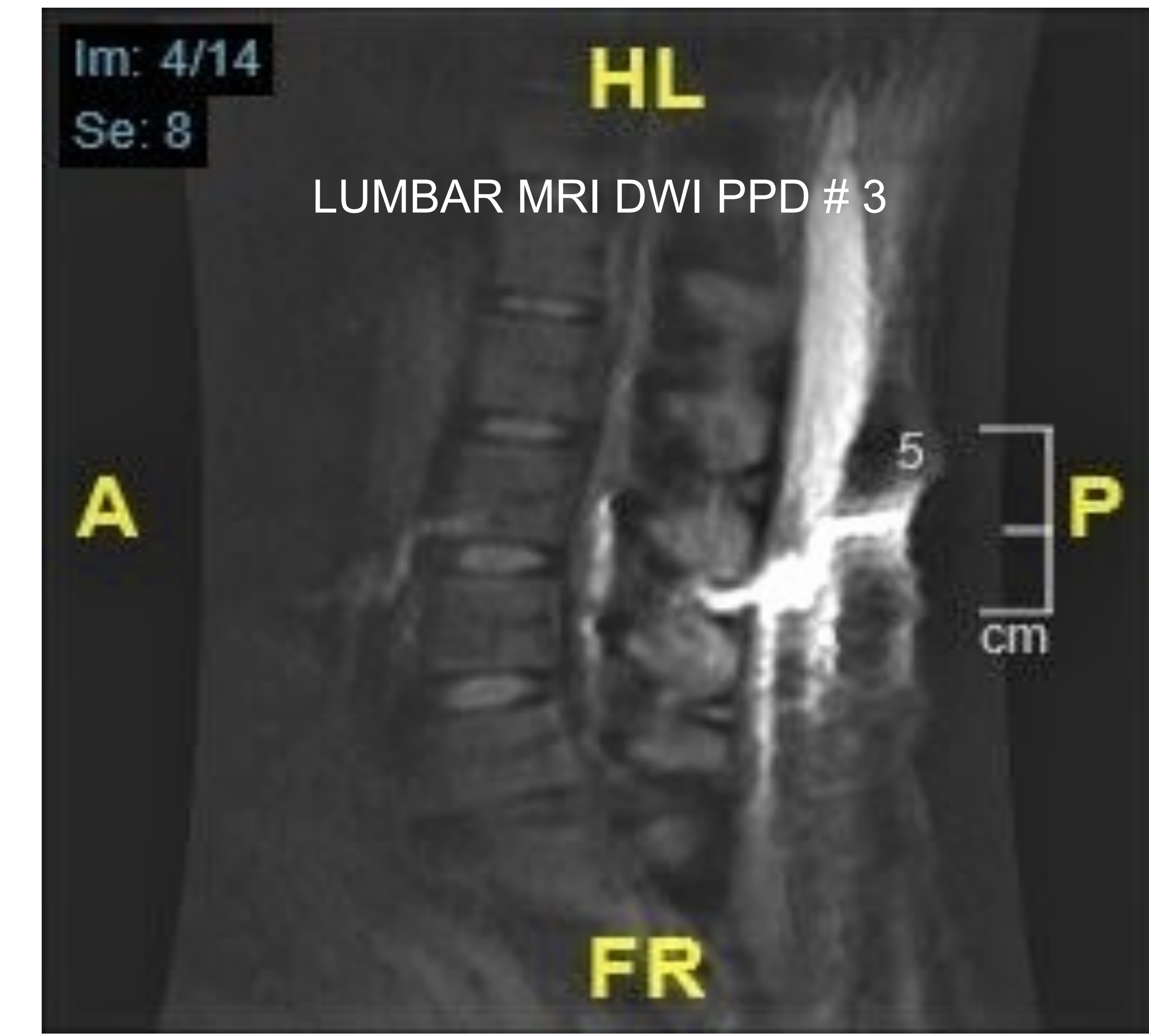
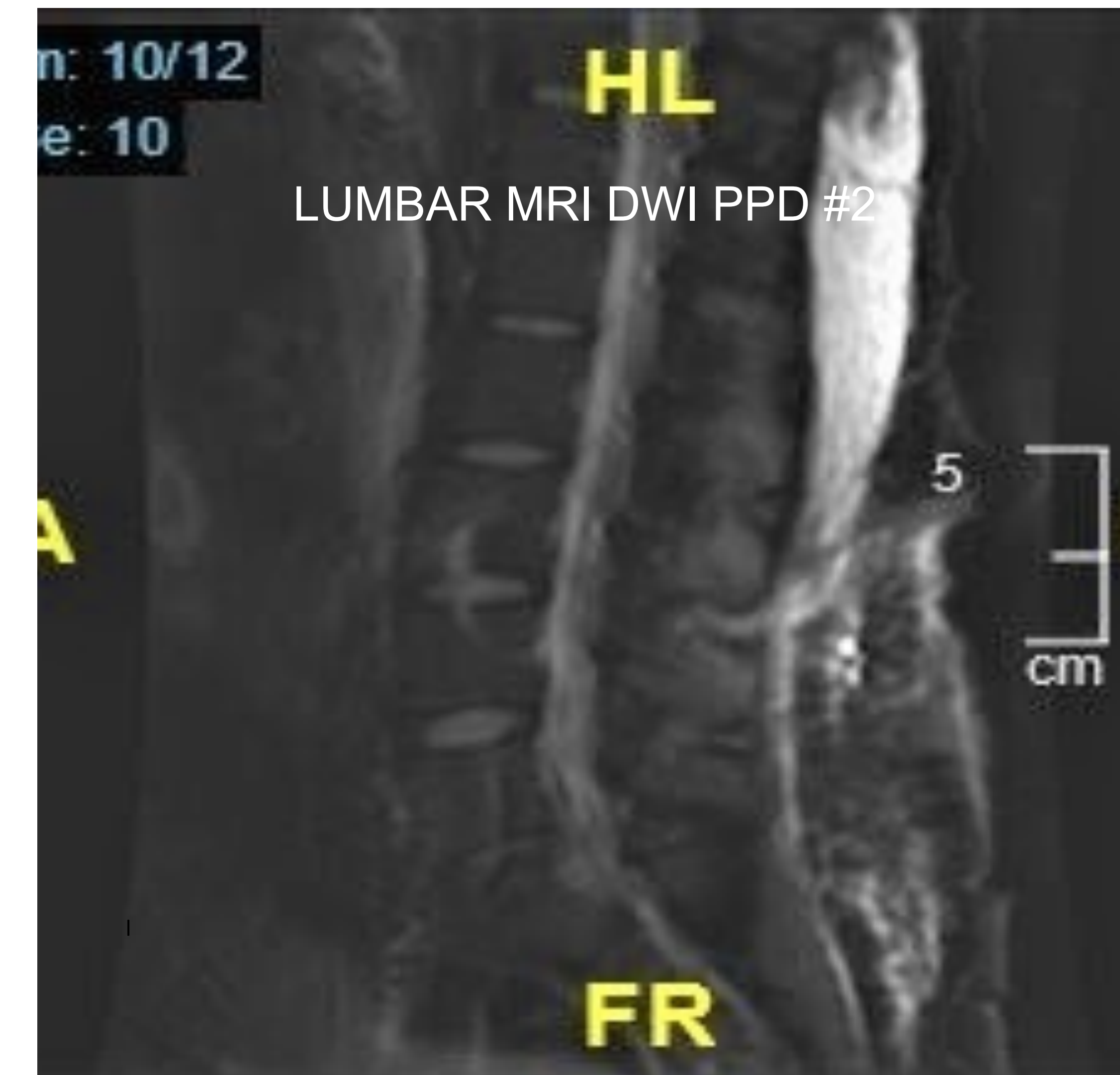
•She was induced secondary to preeclampsia and requested labor analgesia. A CSE was placed at L3/L4, using Povidone/Iodine skin prep. Placement required two attempts.

•The epidural was removed one hour after delivery. Six hours later, she reported 10/10 back pain. On postpartum day #1, she had tenderness and a palpable mass at the epidural site.

•An MRI was obtained on ppd #2, showing a serosanguineous collection in dorsal epidural space, mildly narrowing the thecal sac. Enhancement consistent with needle trajectory was detected.

•On ppd #3, purulent drainage was evident from the epidural site, and a repeat MRI was obtained. The fluid collection had increased in size extending from L5 to L2 with peripheral enhancement tracking to the cutaneous surface. Central canal compression was present.

•She was started on vancomycin/cefepime. Neurosurgery performed a laminectomy. She was discharged home on postpartum day #8 with normal neurologic function and mild pain. A month later, her pain had slightly worsened. She also reported significant anxiety.



Discussion

This patient had several risk factors for infection: a long course of steroids, a superimposed skin infection, difficult epidural placement, and a change in the usual skin preparation. The presentation of severe back pain with erythema at the site warranted immediate investigation. Initially, there was a concern for epidural hematoma. Only with exudate at the site and further examination was the abscess diagnosed. Some authors have suggested the consideration of prophylactic antibiotics in patients with evidence of infectious dermatitis⁴. The patient was eventually treated with broad-spectrum antibiotics and laminectomy, leading to a rapid recovery. Still, her persistent pain and long-term psychological trauma elucidate the significance of this severe complication and the importance of prevention.

References

- ¹Rosero, EB, Joshi, GP. Nationwide incidence of serious complications of epidural analgesia in the United States. *Acta Anaesthesiologica Scandinavica*. 2016
- ²Reynolds F. Neurological infections after neuraxial anesthesia. *Anesthesiol Clin*. 2008 Mar;26(1):23-52
- ³Maronge, L. and Bogod, D. Complications in **obstetric** anaesthesia. *Anaesthesia*, 73: 61-66 2018
- ⁴Hagen Bomberg, Denise Krotten, Christine Kubulus, Stefan Wagenpfeil, Paul Kessler, Thorsten Steinfeldt, Thomas Standl, André Gottschalk, Jan Stork, Winfried Meissner, Juergen Birnbaum, Thea Koch, Daniel I. Sessler, Thomas Volk, Alexander Raddatz; Single-dose Antibiotic Prophylaxis in Regional Anesthesia: A Retrospective Registry Analysis. *Anesthesiology* 2016; 125:505–515