Spinal epidural abscess treatment

- Complicated Pyelonephritis Leading to Vertebral Osteomyelitis: Diagnostic and Therapeutic Considerations
- Diagnostic Delays Are Common, and Classic Presentations Are Rare in Spinal Epidural Abscess
- Long-Segment Ventral Spinal Epidural Abscesses Caused by Mycobacterium Tuberculosis: A Report of 2 Cases and Review
- Retropharyngeal abscess caused by Streptococcus agalactiae: A case report and literature review
- Vertebral Coccidioidomycosis With Craniocervical Junction Instability and Ventral Displacement of C1 in a Pregnant Woman: A Case Report and Literature Review
- Neurological complications following obstetric neuraxial anaesthesia: a four-year United Kingdom population-based study of epidural haematoma and epidural abscess (2014-2017)
- Foot drop secondary to spinal abscess caused by brucellosis: A case report
- Community-acquired cerebral abscess and intracranial empyemas in children: a prospective cohort study

● Spinal epidural abscess may produce progressive myelopathy, sometimes with precipitous deterioration, therefore early surgery has been advocated by some even if no neuro deficit.

● treatment: controversial. Many patients improve with antibiotics alone, but some may deteriorate precipitously

General information

Controversial. In most cases, treatment of spinal epidural abscess consists of early surgical evacuation combined with antibiotics as the treatment of choice. Argument: although there are reports of management with antibiotics alone [1) 2) 3)] ± immobilization, [4)] rapid and irreversible deterioration has occurred even in patients treated with appropriate antibiotics who were initially neurologically intact [5) 6)] 86% of those who deteriorated were initially treated with antibiotics alone. [7)]

Therefore it has been recommended that nonsurgical management be reserved for the following patients

1. those with prohibitive operative risk factors

2. involvement of an extensive length of the spinal canal

3. complete paralysis for > 3 days

To add fuel to the argument, in many cases, at the time of surgery, instead of a true abscess, inflammatory tissue that is not easily or effectively debrided is encountered.

Although neurosurgical decompression is still the treatment of choice in the majority of cases, less invasive procedures (e.g. computed tomography-guided needle aspiration) or antimicrobial treatment alone can be applied in selected cases. The choice of the most appropriate therapy should be

discussed immediately after a confirmed diagnosis in consultation with infectious disease, radiology and spinal surgery specialists.

Spinal epidural abscesses usually are surgical emergencies because of concurrent neurologic deficits.

Due to the rarity of this condition, there have been few randomized controlled trials to evaluate new treatment strategies, and most recommendations regarding treatment are based on case series studies often derived from the experiences at a single center [8)]

When an SEA is widespread, extensive decompression with laminectomy is often impossible, as it may subject the patient to very long operative times, extensive blood loss, and mechanical instability. A technique called “skip laminectomy” has been described in the literature, in which laminectomies are performed at the rostral and caudal ends of an abscess that spans 3-5 levels and a Fogarty catheter is used to mechanically drain the abscess, much like in an embolectomy.

The optimal management of SEAs in patients 50 years of age and older remains a matter of considerable debate. In an older patient population with multiple comorbidities, whether intravenous antibiotics alone or in combination with surgery lead to superior outcomes remains unknown.

Results of a study suggest that in patients 50 years of age and older, early surgical decompression combined with intravenous antimicrobial therapy was not associated with superior clinical outcomes when compared with intravenous antimicrobial therapy alone [9)].

Surgery

Spinal epidural abscess surgery.

Specific antibiotics

If organism and source unknown, staphylococcus aureus most likely.

Empiric antibiotics:

● Ceftriaxone or cefepime (use when pseudomonas is a concern)

PLUS

● metronidazole

PLUS

● vancomycin:

○ until methicillin resistant S. aureus (MRSA) can be ruled out

○ once MRSA is ruled out a switch to synthetic penicillin (e.g. nafcillin or oxacillin)

● ± rifampin PO

Modify antibiotics based on culture results or knowledge of source (e.g. IV drug abusers have a higher incidence of Gram-negative organisms).

IV cefazolin with oral probenecid may represent a once-daily IV treatment option for patients with methicillin-sensitive Staphylococcus aureus bacteremia and kidney disease [10].

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