

Module 7: Infection

Case presentation: *Pyogenic infection*

Participants should discuss the history, presentation and etiology, and conditions associated with pyogenic infection of the spine, eg, diabetes, HIV, IV drug use, immunocompromise. They should be able to request and interpret appropriate radiographic and laboratory investigations, plain x-rays, MRI, CT, bone scans, and laboratory tests such as the WCC, ESR, and CRP.

Also discuss the need to isolate the infective organism, the principles of biopsy, common pathogens, and the selection, timing, administration, and duration of appropriate antimicrobial therapy and the need to interact with infectious disease specialists in relation to the ongoing management of antimicrobial therapy.

Also discuss the indications for surgical intervention and the principles of treatment—neural decompression, debridement, achieving and maintaining stability, and the management of potential complications.

Conclude the discussion with a brief summary of key points and take-home messages.

Learning outcomes

- Identify the features on history and physical examination of pyogenic infection of the spine
- Recognize risk factors associated with the development of this condition
- Request and interpret appropriate radiographic and laboratory investigations
- Describe the principles of medical and operative treatment of this condition
- Initiate and supervise appropriate management of spinal infection

Case presentation: *Spinal tuberculosis infection*

Participants should discuss the history and presentation of this condition and the “at risk” populations.

They should be able to request and interpret appropriate radiographic and laboratory investigations, plain x-rays, MRI, CT, and bone scans, and laboratory tests such as WCC, ESR, and CRP.

Point out risk factors for this condition and discuss appropriate radiographic and laboratory investigations. Also consider the strategy for obtaining a tissue diagnosis and principles of management, both medical and surgical

Also discuss the need to isolate the infective organism, the administration of, and supervision of, appropriate antimicrobial therapy.

Also discuss the indications for surgical intervention and the principles of treatment, neural decompression, debridement, achieving and maintaining stability, and management of potential complications.

Conclude the discussion with a brief summary of key points and take-home messages.

Learning outcomes

- Identify the features on history and physical examination of TB infection of the spine
- Recognize risk factors associated with the development of this condition
- Request and interpret appropriate radiographic and laboratory investigations
- Describe the principles of medical and operative treatment of this condition
- Initiate and supervise appropriate management of TB spinal infection

Case presentation: *Postoperative spinal infection*

Participants should discuss the history, presentation, and etiology of early and late postoperative infection. Also review factors indicating increased risk of postoperative infection such as diabetes, immunosuppression, steroid use, prolonged surgery, smoking, obesity.

They should be able to request and interpret appropriate radiographic and laboratory investigations, in the context of associated “normal” postoperative changes and laboratory tests such as the WCC, ESR, and CRP.

Also discuss indications for surgical intervention, debridement, removal of instrumentation, and the clinical and radiographic assessment of stability in this context, eg, implant loosening, deformity, pain.

Focus on the need to maintain/restore stability while eliminating or controlling the infection and the duration of treatment. Also cover strategies to manage deep infection such as the use of negative-pressure wound therapy, etc.

Conclude the discussion with a brief summary of key points and take-home messages.

Learning outcomes

- Identify patients with early and late postoperative infection
- Describe the treatment principles of the medical and surgical management of this complication
- Initiate and monitor the progress of treatment and response to therapy
- Explain the biomechanical principles and need to maintain stability