Learning Objectives
- To recognize a characteristic anterior-inferior vertebral body collapse and kyphotic pattern of NTM vertebral osteomyelitis
- To acknowledge typical risk factors and to consider atypical risk factors for NTM as global prevalence increases
- To consider antimycobacterial treatment regimens for NTM osteomyelitis, challenges related to medication interactions and toxicities

Imaging Findings

Figure 5: MRI of the thoracic and lumbar spine with T2 weighted imaging revealing almost complete collapse of the T11 and T12 vertebral bodies and with associated enhancement involving T10, T11 and T12 vertebra. Figure 5: MRI of the thoracic and lumbar spine with T2 weighted imaging revealing almost complete collapse of the T11 and T12 vertebral bodies and with associated enhancement involving T10, T11 and T12 vertebra.

Clinical Considerations

Risk Factors
- HIV/AIDS
- Hematologic Malignancy
- II/IV Gamma Axis Defects
- Tnf-alpha Inhibitor Exposure
- Corticostereoid Exposure
- Advanced Age
- Higher Cumulative Disadvantage Scores

Treatment Considerations
- Antimicrobial Susceptibility Testing
- Blood Cultures
- Antimicrobial Penetration in Bone
- Medication Interactions
- Treatment Toxicities
- Ultimate Surgical Management

References

7. Peiris C, Rudnicka A, Gobria G, et al. A characteristic anterior-inferior vertebral body collapse and kyphotic pattern of NTM vertebral osteomyelitis (MVO) is similar between TB and NTM organisms, which is thought to be mediated hematogenously via the paravertebral venous route, leading to characteristic destruction in the anterior-inferior vertebral body, with progression to involve the anterior spinal ligament and pedicles to adjacent vertebral. CT, and MR Imaging thus typically reveal involvement of one or more contiguous vertebral bodies resulting in significant kyphosis, disc destruction and soft-tissue inflammation that may extend extradurally or cause abscesses in surrounding soft tissue. MVO is characterized by a slower progression of bone destruction relative to typical pyogenic osteomyelitis, and given this natural history as well as the fastidious growth of mycobacteria in the laboratory setting, time to diagnosis from initial development of symptoms is estimated at about ten months for TB MVO.

Discussion

Rates of NTM infections are rising globally. While pulmonary disease is the most common manifestation of NTM infection, disseminated disease is increasingly being recognized, including in patients who lack traditional risk factors for disseminated disease. NTM osteomyelitis should be considered among patients with atypical anterior vertebral fractures, and treatment should be initiated upon identification of organism susceptibility.