

Answer to Medical Quiz

Answer:

- i) Destruction and signal alteration involving L1 and L2 bodies,
- ii) Altered signal intensity involving L1-2 disc and destruction, and
- iii) Thecal sac compression
- iv) Paravertebral and prevertebral collection extending from L1 to L2 level.
- b) Lumbar spinal tuberculosis/ Pott's disease
- c) computed tomography-guided Fine needle aspiration cytology (FNAC)/ fine needle biopsy
- d) Antituberculosis drugs (four-drug therapy)

Overview:

Spinal infections can be classified by the anatomical location involved: the vertebral column, intervertebral disc space, the spinal canal and adjacent soft tissues.¹ Infection may be caused by bacteria or fungal organisms, and can occur after surgery. Pott's disease, often called spinal TB or tuberculous spondylitis, is a type of tuberculosis that affects the spine.² Mycobacterium tuberculosis causes a bacterial infection that travels from the lungs to the spine.³ The infection harms the vertebrae, potentially causing pain, stiffness, and spinal deformity. Untreated, Pott's disease can lead to serious problems such as spinal instability, neurological impairments, and even paralysis.⁴ Approximately 10% of patients with extrapulmonary tuberculosis have skeletal involvement. The spine is the most common skeletal site affected, followed by the hip and knee. Spinal tuberculosis accounts for almost 50% cases of skeletal tuberculosis.⁴ Infection starts in cancellous bone usually adjacent to an inter-vertebral disc or anteriorly under the periosteum. Site of involvement in spinal tuberculosis: thoracic (65%) lumbar (20%), cervical (10%), thoraco-lumbar (5%), and atlanto-axial region (< 1%).³ There may be multiple vertebrae; Two (<90%), Three (50%) vertebrae and Paraspinal abscess 55-90%. Characteristics features in MRI of spine: T1+C : Rim enhancement of abscess on MRI is suggestive of tuberculous spondylitis, however, rim enhancement can be observed in both tuberculous and pyogenic spondylitis :TB Spondylitis: Thin and smooth enhancement of the abscess wall and well-defined paraspinal abnormal signal.⁵ Pyogenic Infections: Thick and irregular enhancement of abscess wall and ill-defined paraspinal abnormal signal. Hyperintense signal on T2 is more common in tuberculous spondylitis. Subligamentous spread to three or more vertebral levels was frequent in tuberculous spondylitis. Involvement of the posterior element has been reported in tuberculous spondylitis and very

uncommonly in pyogenic spondylitis.⁶ CNS tuberculosis is categorised under TB treatment category I by WHO. Initial phase therapy (2 months) with isoniazid, rifampicin, pyrazinamide and streptomycin or ethambutol followed by continuation phase (7 mths) with isoniazid and rifampicin. The BTS and IDSA/ATS recommend 9-12 months of ATT. Therapy should be extended to 18 months in patients who do not tolerate pyrazinamide. Short duration therapy (6 months) might be sufficient if the likelihood of drug resistance is low.⁷ However as the emergence of neurological deficit has been seen in some of the studies so a minimum of 12 months treatment would be worthwhile.⁸

References:

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