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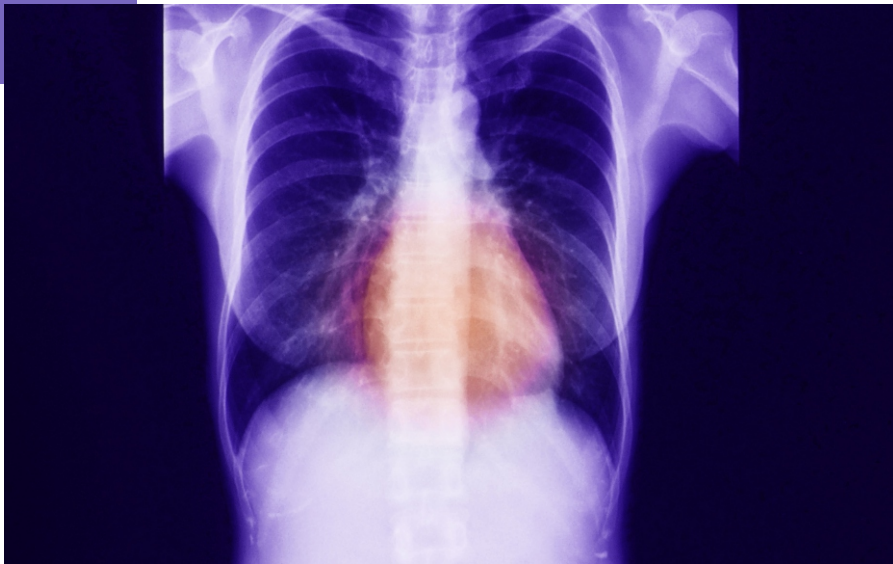
+91-124-3528444

Golf Course Road, DLF Phase-5
Sector - 53, Haryana - 122002

www.sanarhospitals.com
info@sanarhospitals.com

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What is
Spinal Tuberculosis?



What is Spinal Tuberculosis?

Spinal tuberculosis is a form of skeletal tuberculosis that is caused due to tuberculosis. The usual sites to be involved in spinal tuberculosis are the lower thoracic and upper lumbar vertebrae. The source of infection is usually outside the spine. It is most often spread from the lungs via the blood. There is a combination of osteomyelitis and infective arthritis.

In most cases, usually more than one vertebra is involved. The area most affected is the anterior part of the vertebral body adjacent to the subchondral plate. Tuberculosis may spread from that area to adjacent intervertebral discs. In adults, disc disease is secondary to the spread of infection from the vertebral body but in children it can be a primary site, as the disc is vascular in children.

It is the most common site for tuberculosis to affect the skeletal system, although it can affect the hips and knees too. The infection spreads from two adjacent vertebrae into the adjoining disc space. If only one vertebra is affected, the disc is normal; however, if two are involved the disc between them collapses, as it is avascular and cannot receive nutrients. Caseation occurs, with vertebral narrowing and eventually vertebral collapse and spinal damage. A dry soft tissue mass often forms and superinfection is rare.



How common is Spinal Tuberculosis? (Epidemiology)

- The epidemiology of tuberculosis is influenced by factors which include socio-economic development, lifestyle, geographic location and access to medical services.
- Spinal Tuberculosis accounts for around 1% of all cases of tuberculosis and around 15% of extrapulmonary tuberculosis cases.
- Over 90% of tuberculosis occurs in developing countries; however, a global resurgence is also affecting developed countries.
- India, China, Indonesia, Pakistan and Bangladesh have the largest number of cases but there has been a marked increase in the number of cases in the former Soviet Union and in sub-Saharan Africa parallel to the spread of HIV.

Risk factors

- Endemic Tuberculosis.
- Poor socio-economic conditions.
- HIV infection



Spinal Tuberculosis symptoms and presentation

Spinal Tuberculosis infections should be suspected in patients with an insidious, progressive history of back pain and in individuals from an endemic area, especially when the thoracic vertebrae are affected and with a pattern of bone destruction with relative disc preservation, paravertebral and epidural soft tissue masses.

- The onset is gradual
- Back pain is localised
- Fever, night sweats, anorexia and weight loss
- Signs may include kyphosis (common) and/or a paravertebral swelling
- Affected patients tend to assume a protective, upright, stiff position
- If there is neural involvement there will be neurological signs
- A psoas abscess may present as a lump in the groin area and resemble a hernia:
 - A psoas abscess most often originates from a tuberculous abscess of the lumbar vertebra that tracks from the spine inside the sheath of the psoas muscle
 - Other causes include extension of renal sepsis and posterior perforation of the bowel
 - There is a tender swelling below the inguinal ligament and they are usually apyrexial
 - The condition may be confused with a femoral hernia or enlarged inguinal lymph nodes
- Spinal tuberculosis in children needs a particularly high index of suspicion for diagnosis



Differential diagnosis

- Pyogenic osteitis of the spine
- Spinal tumours

Associated diseases

- The disease is more common in certain sections of society such as those with alcohol dependency, the undernourished, ethnic minority communities and the elderly
- The disease is also more common in patients after gastrectomy for peptic ulcer

Spinal tuberculosis treatment and management

- Medical treatment is the mainstay but surgical intervention may be required
- The possibility of multiple drug-resistant TB should be considered
- Immobilisation of the spine is usual for two or three months
- Surgery is reserved for selected cases of progressive deformity or where neurological deficit is not improved by anti-tubercular treatment
- Multidisciplinary approaches to diagnosis and management can improve outcomes for both



Surgical Treatment

Most patients affected by spinal tuberculosis can be successfully treated conservatively with chemotherapy, external bracing and prolonged rest. However, kyphotic deformity, spinal instability and neurological deficit are often associated with a conservative approach.

- In patients with spinal tuberculosis, recommendation for surgery should be considered if there is spinal instability or evidence of spinal cord compression
- Patients with a kyphosis of 60° or more (or a kyphosis which is likely to progress) require anterior decompression, posterior shortening, posterior instrumented stabilisation, anterior and posterior bone grafting in the active stage of the disease

Prognosis

- The progress is slow and lasts for months or even years
- Prognosis is better if caught early. Modern regimes of chemotherapy are more effective
- Poor prognosis is associated with complications - i.e., those that exhibit instability, neurological deficit or deformity
- Diagnosis can be difficult and is often late