

INTRODUCTION

- An ancient disease
- Features of spinal TB in Egyptian mummies :9000 BC
- WHO: 2013, 9 million people active TB infection and 2 million died from TB.

EPIDEMIOLOGY

- ↑ Incidence related to HIV (5-10% of HIV patients will have TB).
- Affects all age groups and both sexes

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Types of Tuberculosis Infection

Pulmonary

- Infection mainly affects the lungs

Extra-pulmonary

- Pleura, CNS, Genitourinary, Lymphatic system, Bones and Joints etc

- Musculoskeletal TB accounts for 10 to 20 % of all TB.
- Musculoskeletal TB:
- Commonest is spinal TB ~50%
- Hip – 25%
- Knee – 8%

PATHOLOGY

- Organism: *Mycobacteria tuberculosis*
- Transmission: Droplet infection →
Primary TB
- Secondary TB = bone and joint TB
- Destruction of bone and joint.



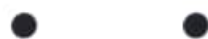
Types of Tuberculosis

Primary tuberculosis:

The infection of an individual with tubercle bacilli who has not been previously infected or immunized is called primary tuberculosis

Secondary tuberculosis:

The infection of an individual who has been previously infected or sensitized is called secondary or post-primary or reinfection.



BONE AND JOINT TUBERCULOSIS

- Tuberculous spondylitis (Potts disease)
- Tuberculous osteomyelitis
- Tuberculous arthritis (hips and knees are affected most frequently)
- Tuberculous tenosynovitis (Flexor tendons of the hand)
- Tuberculous myositis



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TB SPINE (POTT'S DISEASE)

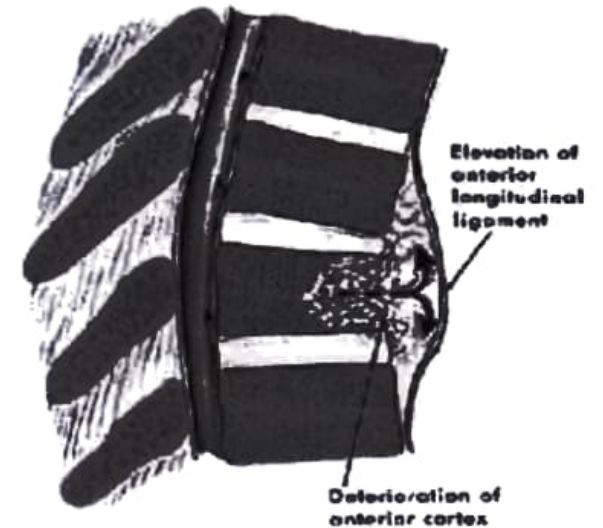
- most common extra pulmonary location of TB
- About 2/3 of patients will have abnormal chest x-rays
- Most common site of involvement
Thoracolumbar (50% of patients)
- cervical spine and lumber spine are each involved in 25% of patients;



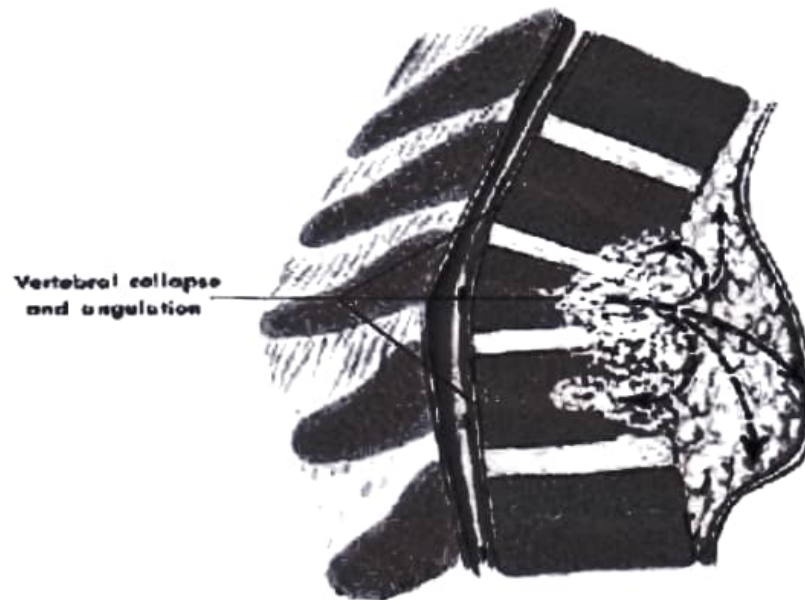
TUBERCULOSIS

- **Pathology**

- Blood borne - settles in **vertebral body anteriorly**



- intervertebral discs preserved until late disease

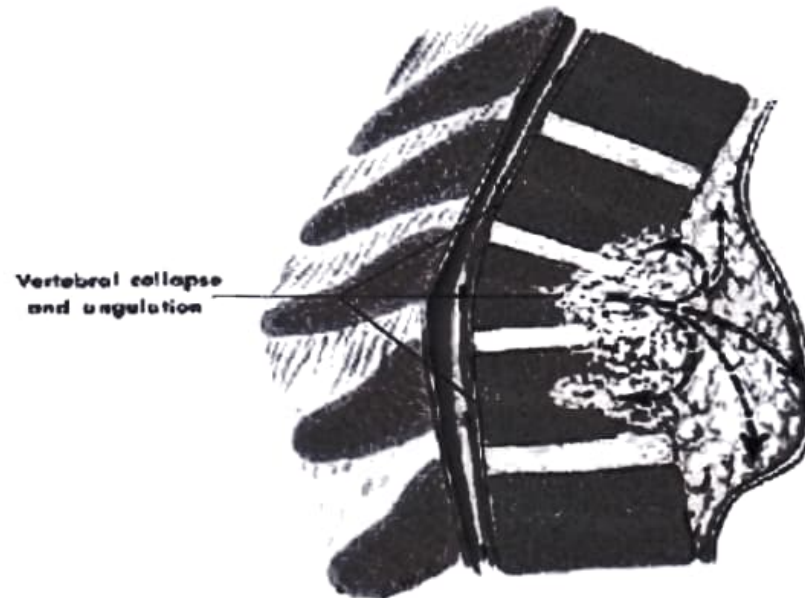
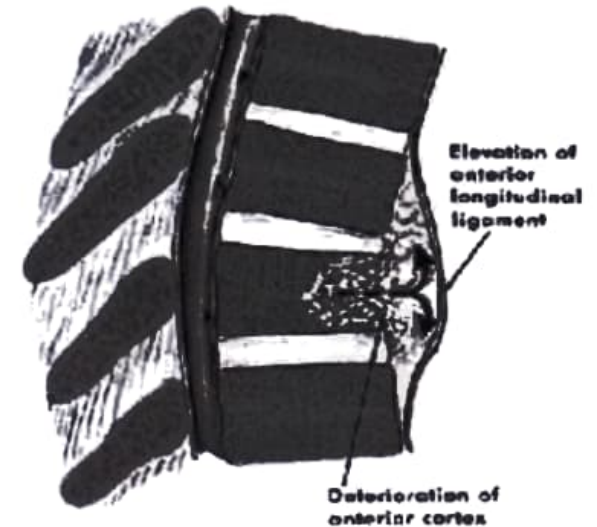


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DDX of TB Spine

- Spondylosis
- pyogenic and fungal osteomyelitis,
- multiple myeloma
- eosinophilic granuloma
- compression fractures.

MUSCULOSKELETAL SYMPTOMS

- Insidious / Slow onset
 - Pain – back pain, hip pain, knee pain.
 - Fever
 - Weight loss
 - Night sweats
 - History of contacts with pulmonary Tb
 - Deformity of spine
 - Weakness of lower limbs
- 
- Constitutional symptoms

SIGNS

- Usually Chronically ill (may look fit)
- Swelling - spine, paraspinal
- joints
- Gibbus deformity
- Tenderness – spine, other joints
- Limitation of movement – spine, other joints
- Paraplegia – flaccid/spastic



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INVESTIGATIONS: LABORATORY

1. FBC : +-Anemia, +-lymphocytosis, ESR elevated(25% Normal)

2. Mantoux Test: +-ve

3.Culture of sample (Gold standard) – Bactec method < 2 weeks.

4. Bone tissue for Histology

- **Granulomatous inflammation/ caseous necrosis**

5. Synovial fluid aspiration

- **AAFB positive in 10-20% of cases**
- **Cultures positive in 50% of cases**

6.Synovial Biopsy

- **More reliable**
- **Cultures positive in 80% of pt**

7.PCR allows for faster identification (GENE EXPERT)



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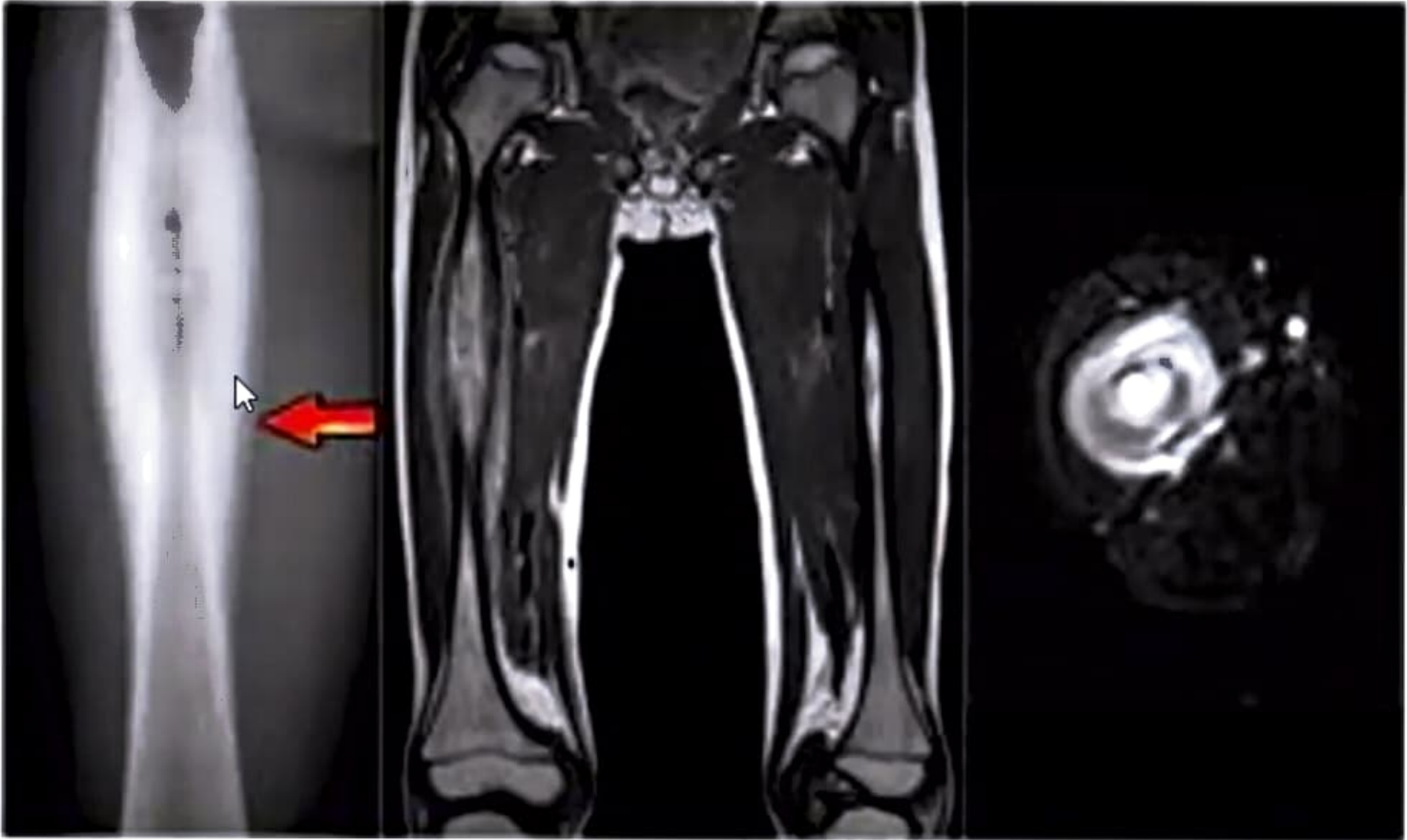


INVESTIGATIONS: IMAGING

1. X-rays
 - Chest x – ray:cavitation, infiltration
 - Spine
 - Other joints
2. CT Scan
3. MRI







MANAGEMENT

(a) Medical – 80% of cases

- Anti T.b drugs

→ Streptomycin

→ Rifampicin

→ INH

→ Ethambutol

→ PAS

- ↑ Nutrition (High protein, Multivitamins)

Rest

Immobilization.



MANAGEMENT

- EXTRA PULMONARY TB
- Intensive phase- 2RHZE
- Continuation phase – 7RH
- Adjunctive Rx: Pyridoxine (Vit B6) - INH



(b) Surgical (Limited role)

- Biopsy**
- Joint debridement and fusion/Replacement**
- Spinal decompression**
- Spinal fusion or stabilization**

