CASE REPORT

EXTRAPULMONARY TB: RADIOLOGICAL FEATURES OF HEPATIC TB AND SPONDYLITIS TB

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ABSTRACT

Introduction:
Extrapulmonary Tuberculosis (EPTB) is a form of Mycobacterium tuberculosis infection outside the lungs that can attack various organs. EPTB accounts for 15–20% of all tuberculosis cases, with the highest prevalence in children and immunocompromised patients.

Case Report:
Mr S, a 59-year-old male patient complained of back pain that worsened with movement with history of post-laparotomy liver drainage incision. Physical examination revealed normal vital signs and icteric sclerae. Supporting examinations showed a complex picture involving the hepatobiliary, pulmonary, and musculoskeletal systems. e was given therapy consisting of an anti-tuberculosis drug regimen, diclofenac sodium, and curcuma supplements, along with vitamins B1, B6, and B12.

Result:
A chest X-ray revealed pulmonary edema and bilateral pleural effusion. An abdominal CT scan identified a thick-walled liver abscess in the right lobe, segment VIII, with peripheral calcification, suggesting possible hepatic tuberculosis. A spine MRI demonstrated destruction of the lumbar 1–2 vertebrae with bilateral paravertebral and psoas abscesses, consistent with tuberculous spondylitis

Conclusion:
The case indicates the presence of disseminated extrapulmonary tuberculosis infection involving multiple organs. This case emphasizes the importance of clinical vigilance for disseminated EPTB, especially in patients with recurrent liver abscesses or suboptimal therapeutic response. A multidisciplinary approach with histopathological confirmation, culture, and specific therapy is crucial for reducing patient morbidity and mortality.

Keywords: Extrapulmonary TB, radiology, hepatic tuberculosis, tuberculous spondylitis.

INTRODUCTION

- Extrapulmonary TB (EPTB) is an infection caused by the bacterium Mycobacterium tuberculosis in organs or tissues outside the lungs, such as pleura, lymph nodes, bones and joint, central nervous system, abdomen, and skin
- EPTB can occur with or without pulmonary TB disease.
- The main risk factors contributing to the epidemiology of EPTB are conditions involving the immune system, such as diabetes, malnutrition, alcoholism, use of immunosuppressant drugs, HIV, and chronic kidney disease
- According to the World Health Organization (WHO), EPTB accounts for approximately 15-20% of all tuberculosis cases worldwide.
- In Indonesia, it is found in vulnerable populations, such as children, people with diabetes mellitus, and patients undergoing immunosuppressive therapy.
- The most common manifestation of EPTB in Indonesia is TB lymphadenitis, followed by TB of the bone, pleura, and abdomen.

Case Report

Name : Mr. S
Age : 59 years
Sex : Male
Main Complaint : Back Pain

Anamnesis

The patient complained of intermittent back pain. The pain was felt primarily when moving and relieved when lying down. History of laparotomy incision for liver abscess drainage in March 2025.

Physical Examination

Vital Sign
T : 36, 5°C
HR : 88 bpm
RR : 18 bpm
BP : 120/65 mmHg
SpO2 : 100% on RA

Physical examination revealed icteric sclera, and other physical examination findings were normal.

Examination Findings

Laboratory: Elevated SGOT, direct bilirubin, creatinine, ESR, quantitative CRP; anti-HIV negative.
GeneXpert test: Sputum sample negative.
Radiology
- Chest X-ray: Bilateral pleural effusion, pulmonary edema.
- Abdominal CT scan: Liver abscess with peripheral calcification, multiple nephrolithiasis.
- Spine MRI: Vertebral destruction at L1–L2 with bilateral paravertebral and psoas abscesses

Diagnosis

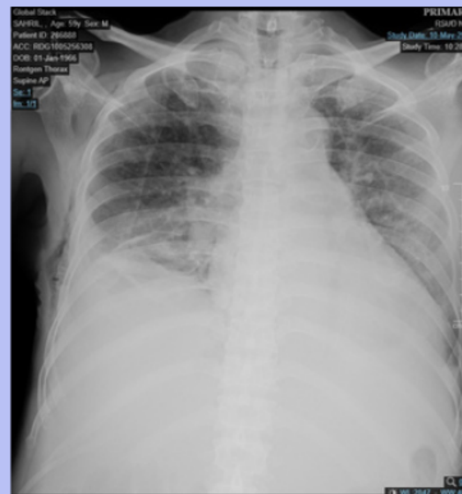
Right lobe hepatic abscess dd suspected hepatic tuberculosis.
Lumbar HNP with paraparesis.
Spondylitis at L1–L2.
Suspected hepatic tuberculosis

Management

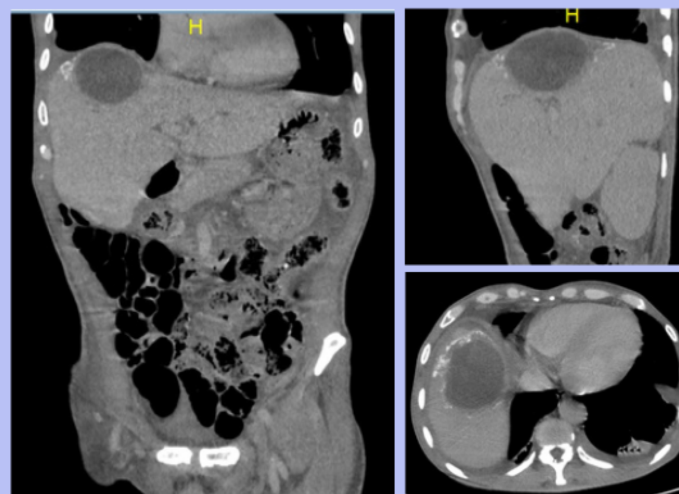
Patients were treated with a regimen of anti-tuberculosis drugs, diclofenac sodium to reduce pain, and supplements such as Curcuma, vitamin B1, vitamin B2, vitamin B6, and vitamin B12.

Result & Discussion

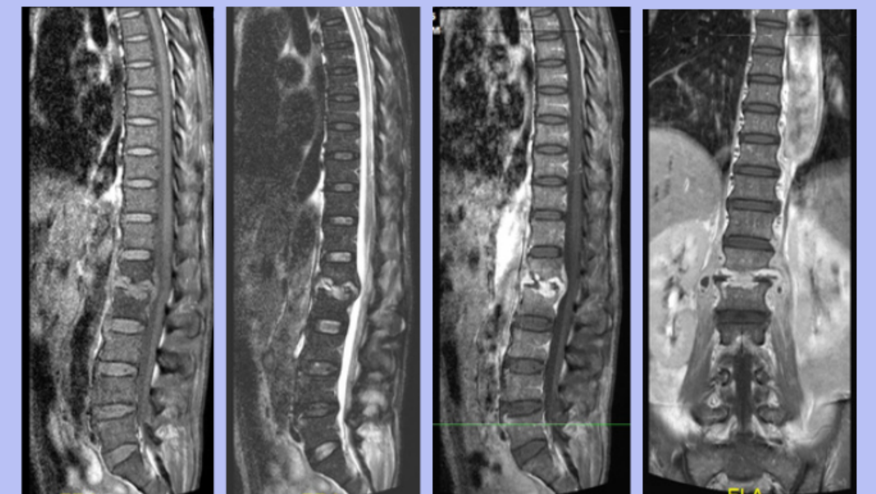
Picture 1. Rontgen Thorax



Picture 2. CT Scan Abdomen



Picture 3. MRI Spine



Discussion

This case is a manifestation of disseminated extrapulmonary TB. Radiological findings, such as an abdominal CT scan and spinal MRI, demonstrate typical signs of extrapulmonary TB.

Spine MRI demonstrates lytic lesions and destruction of the first and second lumbar vertebrae, with paravertebral abscesses causing canal stenosis, as well as peripheral enhancement within the paravertebral abscesses, typical of tuberculous spondylitis. Paravertebral abscesses, intervertebral disc involvement, and psoas abscesses can lead to deformity and neurological deficits if not promptly treated[1].

An abdominal CT scan demonstrates a hypodense lesion in the right hepatic lobe with a thick wall, peripheral calcification, and postcontrast enhancement. These findings are typical of a chronic liver abscess, with the possibility of a recurrent pyogenic abscess or liver tuberculosis. Tuberculosis of the liver abscess generally presents as diffuse granulomatous hepatitis. Liver TB is rare, but it often mimics an abscess or metastasis on imaging, and peripheral calcification is a characteristic feature[2].

A chest radiograph revealed enhanced pulmonary vascular markings, homogeneous opacities at the base of both hemithoraxes, costophrenic sinus congestion, and cardiomegaly. These findings are consistent with pulmonary edema and bilateral pleural effusions, which can be secondary complications of chronic intra-abdominal infection or cardiopulmonary insufficiency[3].

Conclusion

Clinical and radiological findings of patient Mr. S supports the diagnosis of right lobe liver abscess with suspected hepatic tuberculosis, 1–2 lumbar tuberculous spondylitis with bilateral paravertebral and psoas abscesses, low obstructive ileus, and minimal bilateral pleural effusion. These conditions are complex manifestations of disseminated tuberculosis infection with multi-organ complications

Reference

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