

# Tuberculous spondylodiscitis: a diagnostic problem

## *Spondilodiscita tuberculoasă: o problemă de diagnostic*

Daniel Coutinho<sup>1</sup>, Rita Linhas<sup>1</sup>, David Araújo<sup>2</sup>, Rolando Freitas<sup>3</sup>, Raquel Duarte<sup>1,4,5,6</sup>

1. Pulmonology Department, Centro Hospitalar de Vila Nova de Gaia/Espinho, Vila Nova de Gaia, Portugal; 2. Pulmonology department, Centro Hospitalar de São João, Porto, Portugal  
3. Orthopedics Department, Centro Hospitalar de Vila Nova de Gaia/Espinho, Vila Nova de Gaia, Portugal; 4. EPIUnit, Institute of Public Health, University of Porto, Porto, Portugal  
5. Chest Disease Centre, Vila Nova de Gaia, Portugal; 6. Department of Clinical Epidemiology, Predictive Medicine and Public Health, University of Porto Medical School, Porto, Portugal  
Corresponding author: Daniel Coutinho, *erviço de Pneumologia, Centro Hospitalar de Vila Nova de Gaia e Espinho, Rua Conceição Fernandes, 4434-502 Vila Nova de Gaia, Portugal, e-mail: dpcoutinho@gmail.com*

**COI disclosure:** The authors certify that there is no actual or potential conflict of interest in relation to this article.

**Author contributions:** Raquel Duarte, Daniel Coutinho, Rita Linhas and David Araújo were responsible for medical follow-up of the patient. Rolando Freitas was responsible for surgical treatment of the patient. Daniel Coutinho did the literature search and manuscript preparation. All authors have read and approved the final version.

**Keywords:** tuberculosis, spondylodiscitis, surgical treatment, diagnosis

Dear Editor,

Tuberculosis (TB) involves both pulmonary and extrapulmonary sites. Skeletal involvement is reported in 1-10% of all TB patients<sup>(1-3)</sup>. Tuberculous spondylodiscitis (TS) is the most common cause of vertebral body infection and is usually linked to large migratory movements from endemic TB areas, low social income, unemployment, poor nutrition, and poor living facilities<sup>(1,4)</sup>.

TS major clinical manifestations are: pain, fever, kyphotic deformity, paravertebral abscess or progressive neurological deficit. In the initial phase of the disease, the diagnosis is usually difficult, thus a meticulous clinical, laboratorial and radiologic evaluation are crucial for a correct diagnosis. The definitive diagnosis of TS is obtained by culturing *M. tuberculosis* from pathological specimens<sup>(1-3)</sup>.

Treatment goals are to eradicate the infection, to correct any neurological deficits and spinal deformities, and to achieve the normalization of patient's daily life. TS treatment is based on medical management with anti-mycobacterial chemotherapy, unless when accompanied by surgical complications<sup>(1,3)</sup>.

We report a case of a 44 year-old non-smoker female presented to the emergency department with low back pain, asthenia and weight loss for a 6-month period. She had no significant medical history, apart from a familiar epidemiologic context of TB infection, and no history of trauma. She was admitted for further evaluation by magnetic resonance imaging of the thoraco-lumbar spine, which showed suggestive lesions of spondylodiscitis of T10-11 (Figure 1A). Since the initial microbiological investigation was negative and tuberculin skin test and interferon gamma-release assay were positive, a percutaneous needle aspiration of the lesion was performed, revealing non-necrotizing epithelioid cell granulomas with a negative Ziehl-Neelsen stain and nucleic acid amplification test (NAAT).

The diagnosis of a probable TS was assumed, anti-mycobacterial chemotherapy was initiated, with a combination of four first-line anti-mycobacterial agents (isoniazid, rifampin, pyrazinamide, and ethambutol) and the patient was discharged. Due to uncontrolled pain and progressive thoracic spine deformity, the patient was readmitted for surgical treatment with a posterior percutaneous fixation of T8, T9, T12 and L1.

The radiologic evaluation showed a worsening of the extension of the paravertebral abscess, which led to another surgical intervention where new bioptic specimens were collected and to the confirmation of TS diagnosis through a positive rapid molecular test and, posteriorly, with a histological confirmation of non-necrotizing epithelioid cell granulomas with a positive Ziehl-Neelsen stain and NAAT. After this last surgical procedure, the patient developed a pleural effusion with biochemical criteria suggestive of TB aetiology, but with no diagnostic confirmation. At this time levofloxacin and amikacin were added to the anti-mycobacterial chemotherapy regimen. The patient completed a 12-month course of treatment, with an osteoarticular and pleural effusion remission, apart from a residual kyphosis (Figure 1B).

This case report illustrates the diagnostic difficulty of TS. A multidisciplinary approach is crucial for a prompt definitive diagnosis with microbiological confirmation, in order to ensure improved long-term outcome and to enable appropriate choice of anti-mycobacterial agents. Although TS is essentially a medical condition, surgery might have an important role in alleviating pain, correcting deformities and neurological impairment, and even, as highlighted in here, in diagnosis. ■

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