



## Case Report

# Monosegmental combined anterior posterior instrumentation for the treatment of a severe lumbar tuberculous spondylodiscitis: case report and literature review<sup>☆</sup>

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### ABSTRACT

Spinal tuberculosis (Pott disease) can produce severe deformities when it is not properly treated. Long instrumentations through single or combined double approaches are usually required to prevent and correct the deformity. The authors present a case of severe deformity secondary to tuberculous spondylodiscitis in the lumbar spine treated with a monosegmental instrumentation through a double approach in a patient with idiopathic scoliosis. Deformity correction and infection resolution through debridement and arthrodesis is observed after one year of follow-up.

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### Instrumentação monossegmentar anterior e posterior combinada para o tratamento de uma espondilodiscite tuberculosa severa: relato de caso e revisão da literatura

### RESUMO

A tuberculose espinhal (doença de Pott) pode produzir deformidades severas se não for tratada adequadamente. Instrumentações longas através de uma abordagem simples ou dupla geralmente são necessárias para corrigir a deformidade. Os autores apresentam um caso de deformidade severa em região lombar secundária a espondilodiscite tuberculosa tratada com instrumentação monossegmentária por dupla abordagem em um paciente com

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Fusão vertebral  
Debridamento

diagnóstico inicial de escoliose idiopática. A cirurgia corretiva e a resolução da infecção através de debridamento e artrodese é observada após um ano de acompanhamento.

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## Introduction

Tuberculosis (TBC) disease is an unsolved problem in developing countries, more than 80% represent a pulmonary disease, tuberculous spondylitis (Pott disease) represent a site for extra-pulmonary tuberculosis, it occurs in less than 1% of patients with tuberculosis.<sup>1</sup>

Tuberculous spondylitis typical presentation can involve anterior elements, usually two adjacent vertebral bodies and the intervertebral disc, and forms a paravertebral abscess. It rarely involves the posterior elements (neural arch tuberculosis) in isolation or combination with lamina, spinous process, transverse process, articular process and pedicles, it can also make an epidural abscess and/or pyomyositis of the posterior spinal muscles.

The typical clinical presentation is back pain, but in those when it involves posterior elements also may lead to the sudden onset of a neurological deficit.<sup>2</sup>

The treatment of tuberculosis spondylitis is based on the structural damage secondary to bone and ligamentary destruction. In general; debridement and anterior or posterior fusion procedures are required. Approximately 5% of the Tuberculosis in the spine develops severe deformities<sup>3</sup> and surgical treatment represents a challenge in this scenario.

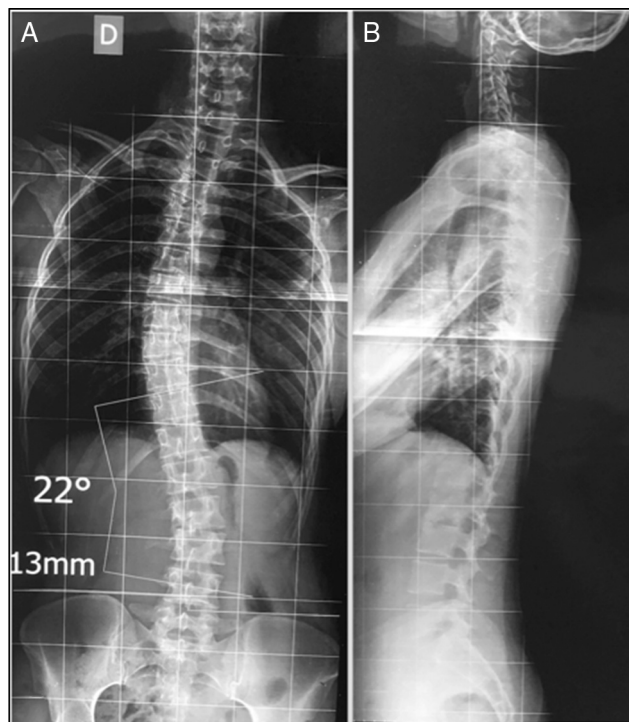
Short-instrumentation has been described previously for one level Tuberculosis spondylodiscitis and mild deformities,<sup>4</sup> however, to our knowledge, monosegmental instrumentation for the treatment of a severe deformity lumbar TBC has not been described previously.

We present the treatment of lumbar TBC treated by debridement and one-level anterior posterior arthrodesis of the lumbar spine in a patient with mild scoliosis.

## Case report

A 23-years old female was previously treated in other institution because of psoas tear during three months, because of progressive severe lumbar pain she consulted to our institution. There was no neurological compromise. Weight lost was not detected and any other symptom was associated to the lumbar pain. Previous spinal radiography analysis showed right thoracic idiopathic scoliosis with a 22 degrees lumbar compensatory curve (Fig. 1).

MRI was then performed showing L2 vertebral body, L2-L3 disc and right psoas compromise (Fig. 2). Spondylodiscitis was then suspected. CT-scan was performed in order to evaluate abdominal structures and to ruled-out another clinical problems related to this severe pain (Fig. 3). Severe L2-L3 compromise was observed on CT scan with increased curve deformity at this level.



**Fig. 1 – (A) Posterior view, thoracolumbar scoliosis with 22 grades at the lumbar region; (B) Lateral radiological view approximately one year before diagnosis.**

Percutaneous CT scan guided catheter intervention was performed with 60 cm<sup>3</sup> hematogenous material drainage (Fig. 3) but the cultures were negative.

Surgery was planned to stabilize and correct spinal deformity, drainage of necrotic and inflammatory component and prevent neurological compromise.

## Surgical treatment

Vertebral segmentary kyphosis and lateral angulation were 17 and 25 degrees respectively.

Monosegmentary instrumentation through a double antero-posterior approach was planned. First stage, a minimally invasive lateral right side approach for intersomatic and para-vertebral debridement was performed followed by a reconstruction with L2-L3 interbody titanium cage with rib bone autograft.

Posteriorly, with the same anesthesia, a posterior approach for L2-L3 pedicular instrumentation was performed and no normal spinal levels were instrumented (Fig. 4).

Estimated blood loss during the entire procedure was 850 ml. Both stages were performed under neurophysiologic

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