

## Case Report

# Contribution of Magnetic Resonance Imaging in Brucellian Spondylodiscitis: About a Case

Redouane Roukhsi<sup>1\*</sup>, Ben Elhend Salah<sup>1</sup>, Hassan Doulhousne<sup>1</sup>, Badr Slioui<sup>1</sup>, Salah Belasri<sup>1</sup>, Nabil Hammoune<sup>1</sup>, Abdelilah Mouhcine<sup>1</sup>, El Mehdi Atmane<sup>1</sup>, El Fikri Abdelghani<sup>1</sup>

<sup>1</sup>Radiology Department, Military Hospital Avicenne, Marrakech, Morocco

### Article History

Received: 11.12.2024

Accepted: 17.01.2025

Published: 23.01.2025

### Journal homepage:

<https://www.easpublisher.com>

### Quick Response Code



**Abstract:** Brucellar spondylodiscitis often develops insidiously, causing a diagnostic delay and exposing it to serious neurological complications. The clinical and radiological aspects are not specific. The lesion is often monofocal lumbar. Diagnostic certainty is based on serology and/or bacteriological proof. MRI is essential for early diagnosis, mapping of lesions and the search for possible complications.

**Keywords:** Imaging – MRI - Brucellian Spondylodiscitis.

**Copyright © 2025 The Author(s):** This is an open-access article distributed under the terms of the Creative Commons Attribution **4.0 International License (CC BY-NC 4.0)** which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

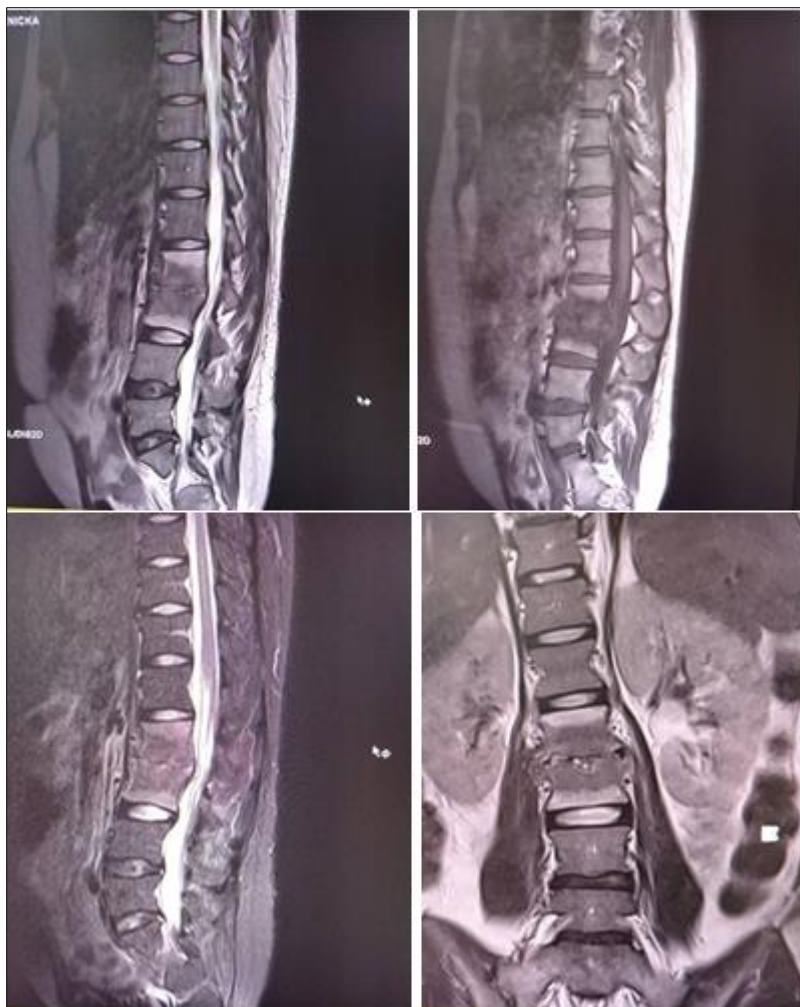
## INTRODUCTION

Brucellosis is an anthroponosis still endemic in Africa and the Mediterranean basin. Brucella spondylodiscitis is often insidious, causing a diagnostic delay and exposing to serious neurological complications. Imaging is crucial in management.

The aim of our work is to determine the magnetic resonance imaging characteristics of Brucella spondylodiscitis (SPD) through an observation of a patient who presented with SPD confirmed by Wright's serodiagnosis of brucellosis.

## OBSERVATION

This is a 30-year-old woman, with no history of pathology. Who has lumbosciatica with fever and spinal syndrome, since 01 month before the examination. This without clinical signs of spinal cord compression. The X-rays showed a disc pinching with erosions of the vertebral endplates on either side of the L2-L3 disc. A CT scan showed a disc pinching with erosions of the vertebral endplates associated with an anterior paravertebral and epidural abscess. The spinal MRI was performed and which helped guide the diagnosis. A tuberculous spondylodiscitis suggested as the primary cause. Wright's serodiagnosis of brucellosis was positive, which helped correct the diagnosis. The patient was put on cycline and rifampicin. The evolution was favorable.



**MRI in axial T1 gado, T2 and sagittal STIR and coronal T2 sequences showing an irregular L2-L3 pinching appearance, erosion of the vertebral endplates above and below, diffuse infiltration of the two L2-L3 vertebral bodies, with anterior epiduritis and a fine abscess of the anterior paravertebral soft parts**

## DISCUSSION

Brucella SPD is generally of insidious evolution, leading to a diagnostic delay and formidable neurological complications. It is transmissible to humans mainly by the ingestion of unpasteurized dairy products [1-3]. The typical clinical aspect includes fever, night sweats, and a deterioration in the general condition associated with inflammatory lower back pain. This sometimes with a neurological deficit such as paraparesis. A spinal cord compression is sometimes inaugural. In biology, a biological inflammatory syndrome is present in most cases.

Brucella etiology of spondylodiscitis is confirmed in most cases by Wright serology as in our case [1-3].

Standard spinal radiographs are often the first imaging examination to be performed and can show pinching and erosion of the vertebral endplates, associated with spinal static disorders. Therefore a negative radiograph does not eliminate the diagnosis of spondylodiscitis.

The scanner can objectify a decrease in disc height, irregularity or erosion of the vertebral plate. Paravertebral abscesses are better diagnosed after injection. It also allows the performance of percutaneous guided biopsy, abscess drainage. MRI allows early diagnosis, mapping of lesions and progressive monitoring [4, 5], and is the gold standard of imaging.

On T2 and STIR sequences, it can show a hypersignal of the intervertebral disc and adjacent vertebral endplates. The T1 sequence shows a hyposignal of the intervertebral disc and adjacent vertebral endplates. This with morphological modification, such as a decrease in the height of the disc, erosion of the vertebral endplates and signs of para/epidural inflammation [4-6]. The MRI in our case was very efficient and allowed the diagnosis to be made in association with the positivity of the Wright serodiagnosis.

Dual antibiotic therapy based on rifampicin and doxycycline combined with decompressive drainage of paravertebral abscesses is often the basis of therapeutic

management. Sometimes surgical treatment may be necessary in the event of spinal cord compression. The outcome is favorable in most cases, with sometimes persistent pain for a few months after remission [1-6].

## CONCLUSION

Brucellar spondylodiscitis is a diagnostic and therapeutic emergency. The role of the radiologist is threefold: first, to suggest the diagnosis of infection, exclude differential diagnoses and assess possible complications. The reference imaging method in the diagnosis of Brucellar spondylodiscitis is MRI.

**Conflict of Interest:** The authors declare that they have no conflict of interest.

## REFERENCES

1. Zribi, M., Ammari, L., Masmoudi, A., Tiouiri, H., & Fendri, C. (2009). Aspects cliniques, microbiologiques et thérapeutiques de la brucellose: étude de 45 cas. *Pathologie Biologie*, 57(5), 349-352.
2. Koubaa, M., Maaloul, I., Marrakchi, C., Lahiani, D., Hammami, B., Mnif, Z., Ben Mahfoudh, K., Hammami, A., & Ben Jemaa, M. (2013). Spinal Brucellosis in south of Tunisia. Review of 32 cases, *The Spine Journal*. doi: 10.1016/j.spinee.2013.09.027.
3. Pappas, G., Papadimitriou, P., Akritidis, N., Christou, L., & Tsianos, E. V. (2006). The new global map of human brucellosis. *The Lancet infectious diseases*, 6(2), 91-99.
4. Chelli Bouaziz, M., Ladeb, M. F., Chakroun, M., & Chaabane, S. (2008). Spinal brucellosis: a review. *Skeletal radiology*, 37(9), 785-790.
5. Raptopoulou, A., Karantanas, A. H., Pomboulidis, K., Grollios, G., Raptopoulou-Gigi, M., & Garyfallos, A. (2006). Brucellar spondylodiscitis: noncontiguous multifocal involvement of the cervical, thoracic, and lumbar spine. *Clinical imaging*, 30(3), 214-217.
6. Shalchian, S., & De Wispelaere, F. (2007). Brucella spondylodiscitis with multiple-level involvement, an unusual clinical presentation. *European Journal of Neurology*, 14(10), e1-2.

---

**Cite This Article:** Redouane Roukhsi, Ben Elhend Salah, Hassan Doulhousne, Badr Slioui, Salah Belasri, Nabil Hammoune, Abdelilah Mouhcine, El Mehdi Atmane, El Fikri Abdelghani (2025). Contribution of Magnetic Resonance Imaging in Brucellian Spondylodiscitis: About a Case. *EAS J Radiol Imaging Technol*, 7(1), 10-12.

---