

Interesting Images

Tuberculous Spondylodiscitis with Psoas Abscess Descending into the Anterior Femoral Compartment Identified Using 2-deoxy-2-[18F]fluoroglucose Positron Emission Tomography Computed Tomography

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Abstract: A 24-year-old immunocompetent woman underwent whole-body 18F-FDG PET/CT for the evaluation of MRI-suspicious tuberculous spinal lesions. The PET/CT results showed no pathological uptake in either lung, and there were no pathological changes on CT. There was increased uptake in the right psoas muscle, extending continuously down anterior to the right hip joint, posterior to and around the trochanteric region of the right femur, and into the right thigh, with an SUV_{max} of 17.0. Subsequently, the patient underwent CT-guided biopsy as per protocol, which revealed drug-sensitive Mycobacterium tuberculosis, and the patient was started on standard tuberculosis treatment for 12 months.

Keywords: tuberculous spondylodiscitis; Pott's disease; drug-sensitive; PET/CT; psoas abscess



Citation: Scherer, J.; Kotze, T.; Mdiza, Z.; Lawson, A.; Held, M.; Thienemann, F. Tuberculous Spondylodiscitis with Psoas Abscess Descending into the Anterior Femoral Compartment Identified Using 2-deoxy-2-[18F]fluoroglucose Positron Emission Tomography Computed Tomography. *Diagnostics* **2024**, *14*, 1018. <https://doi.org/10.3390/diagnostics14101018>

Academic Editor: Hajime Isomoto

Received: 23 April 2024

Revised: 2 May 2024

Accepted: 15 May 2024

Published: 15 May 2024



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Spinal tuberculosis usually results in local pain, neurological deficit, spinal instability and fever, and the duration from initial symptoms to adequate diagnosis can be up to several years [1–3]. Magnetic resonance imaging (MRI) has a reported specificity of 93% and a sensitivity of 94% in detecting spondylodiscitis and therefore is the current gold standard imaging modality for spinal TB [4]. If possible, an MRI of the whole spine should be performed to detect noncontinuous lesions, which occur in 15 to 20% of the patients [5]. PET/CT has recently been shown to be able to detect (extraspinal) sites of infection and monitor treatment success and has shown greater specificity in the diagnosis of spinal tuberculosis than MRI [6,7]. This case illustrates that PET/CT shows promise as a valuable imaging modality for the initial assessment of spinal tuberculosis and its extraspinal manifestation (Figure 1).

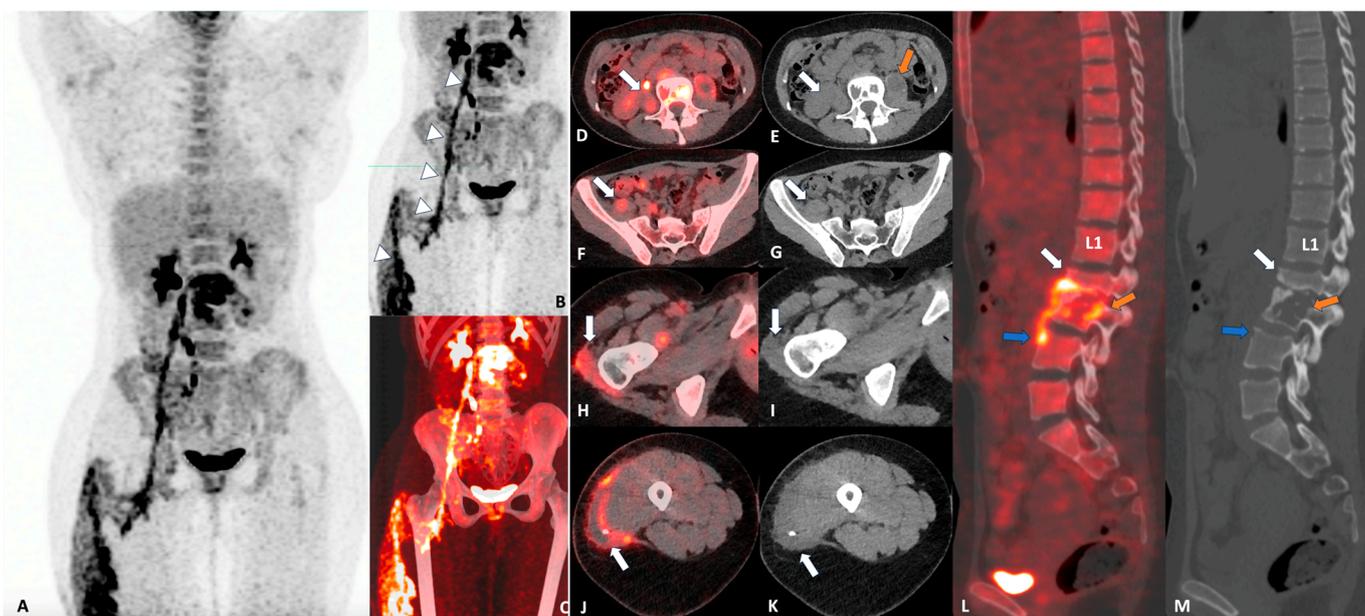


Figure 1. A 24-year-old immunocompetent woman with a history of four months of lower back pain and magnetic resonance imaging (MRI) features suggestive of tuberculous spondylodiscitis of lumbar vertebra 2 and 3 was recruited to the Spinal TB X cohort at the Groote Schuur Hospital of the University of Cape Town (ClinicalTrials.gov Identifier: NCT05610098). As per study protocol, the patient underwent whole-body 2-deoxy-2-[18F]fluoroglucose (FDG) positron emission tomography (PET) computed tomography (PET/CT). PET/CT showed no pathological uptake in either lung's and there were no pathological changes on CT (A). There was increased uptake in the right psoas muscle extending down anterior to the right hip joint, posterior to and around the trochanteric region of the right femur and into the right thigh, with an SUVmaxbw of 17.0 ((B,C) white triangles; (D,F,H,J) white arrows). On CT, the psoas muscle had an altered density, which spread caudally all the way into the lateral compartment of the thigh ((E,G,I,K), white arrows). Increased uptake was also seen in the left psoas muscle, with an SUVmaxbw of 8.04. A discrete 80 mm long by 40 mm wide psoas collection is noted on the left on CT ((E), orange arrow). In the L2–4 region, vertebral collapse with 50% destruction of L2 ((L,M), white arrow), significant body destruction of L3 ((L,M), orange arrow), and beginning erosion of the anterior body of L4 ((L,M), blue arrow), with an SUVmaxbw of 13, were noted. Subsequently, the patient underwent CT-guided biopsy as per protocol, which revealed drug-sensitive *Mycobacterium tuberculosis*, and the patient was started on standard tuberculosis treatment for 12 months.

Author Contributions: J.S.: Patient recruitment, clinical patient evaluation, analysis, writing of the manuscript, PET/CT reading. T.K.: PET/CT reading, manuscript review. Z.M.: radiographer, manuscript review. A.L.: PET/CT reading, manuscript review. M.H.: manuscript review. F.T.: PET/CT reading, manuscript review. All authors have read and agreed to the published version of the manuscript.

Funding: The Spinal TB X project was supported by the AO Foundation, AO Spine (AOS-DIA-22-029-TRA). AO Spine is a clinical division of the AO Foundation, an independent medically-guided not-for-profit organization based in Davos, Switzerland. Prof. Friedrich Thienemann received support from the EDCTP2 program supported by the European Union (grant number RIA2017T-2004-StatintB). The General Medicine & Global Health Research Unit (www.gmgh.africa) of the University of Cape Town provided institutional support. Dr. Julian Scherer received personal funding from the University of Cape Town to pursue his Ph.D.

Institutional Review Board Statement: This study was conducted in accordance with the Declaration of Helsinki and approved by the Institutional Review Board (or Ethics Committee) of the University of Cape Town (HREC243/2022; 15 October 2022).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study. Written informed consent has been obtained from the patient to publish this paper.

Data Availability Statement: DICOM data are available from the corresponding author upon reasonable request.

Conflicts of Interest: None of the authors has a relationship with industry or financial disclosure related to the content of this manuscript.

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