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## Case Report

# Incidental finding of Pott's disease with abscesses of the psoas simulating an appendicular syndrome <sup>☆</sup>

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## ABSTRACT

Pott's disease or tuberculous spondylodiscitis is the disco-vertebral localization of Koch's bacillus. It causes progressive spinal lesions, with abscesses forming in the perivertebral soft tissues and epidural spaces. Medical imaging plays an indisputable role in the diagnosis and management of Pott's disease. Magnetic resonance imaging (MRI) enables early positive diagnosis and assessment of spinal damage. Computed tomography (CT) is currently the best interventional imaging method for the drainage of soft tissue abscesses and disco-vertebral biopsies for bacteriological and histological purposes. We report a case of accidental discovery of Pott's disease with abscesses of the psoas simulating an appendicular syndrome and describe its epidemiological, clinical, and radiological aspects through a review of the literature.

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## Introduction

Infectious spondylodiscitis involves damage to the intervertebral disc and adjacent vertebral bodies. Pott's disease or tuberculous spondylodiscitis is the most common spinal localization of Koch's bacillus in osteoarticular tuberculosis [1,2]. It is responsible for chronic clinical manifestations with ab-

cesses forming in the perivertebral soft tissues and epidural spaces [1]. Medical imaging plays an indisputable role in the diagnosis and management of Pott's disease [3,4]. Magnetic resonance imaging (MRI) is the examination of choice for early positive diagnosis and assessment of spinal damage. Computed tomography (CT) guides drainage of abscesses and performs disco-vertebral puncture-biopsy for a definite diagnosis of tuberculous spondylodiscitis. We report a case of the

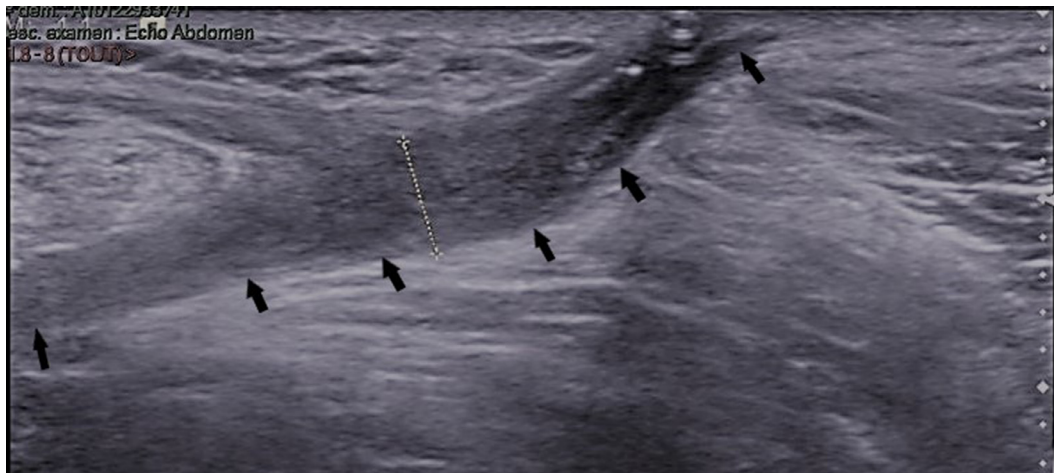
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**Fig. 1 – Abdominal ultrasound showing a subcutaneous abscessed collection in the right iliac fossa (arrows).**

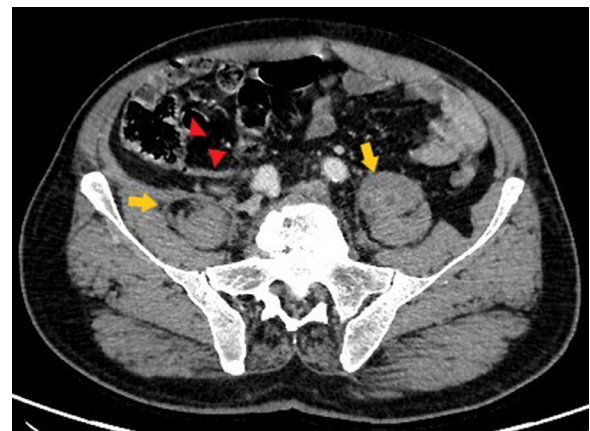
accidental discovery of Pott's disease with abscesses of the psoas simulating an appendicular syndrome. We describe the epidemiological, clinical, and radiological aspects of this case through a review of the literature.

### Clinical observation

A 63-year-old man with no previous history was admitted to the emergency department of Bouaké University Hospital (Ivory Coast) with a painful swelling of the right iliac fossa. Clinical examination on admission revealed an appendicular syndrome characterized by painful swelling of the right iliac fossa and localized defense associated with skin discharge at this level. The rest of the clinical examination was unremarkable. The laboratory work-up did not reveal any inflammatory syndrome. Abdominal ultrasound revealed a subcutaneous abscessed collection in the right iliac fossa, measuring 33 mm x 27 mm and fistulating to the skin via a fine pertus (Fig. 1). An abdominal CT scan revealed a fistulous pathway leading up to bilateral psoas abscesses (Fig. 2) with L4-L5 and L5-S1 spondylodiscitis (Fig. 3). In addition, the appendix and cecum were normal on CT scan (Fig. 2). Given this incidental finding of spondylodiscitis with abscesses of the psoas, additional MRI of the lumbosacral spine was required in order to perform an exhaustive spinal lesion assessment. It confirmed L4-L5 and L5-S1 spondylodiscitis (Fig. 4), with abscesses of the perivertebral soft tissues and psoas extending to the anterior epidural region from L5 to S1 (Figs. 5 and 6). CT-guided disco-vertebral puncture biopsies were subsequently performed, leading to a definite diagnosis of tuberculous spondylodiscitis or Pott's disease (Fig. 7).

### Discussion and literature review

The incidence of infectious spondylodiscitis in developed countries is very low, estimated at 1 to 2.4 per 100,000 population [5]. In Africa and developing countries, their incidence is

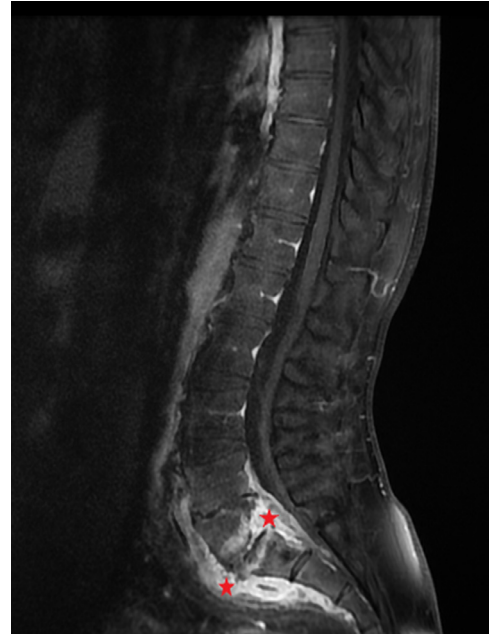


**Fig. 2 – Abdominal CT scan in parenchymal window and axial section showing bilateral abscesses of the psoas (arrows). In addition, the appendix and cecum are normal (arrowheads).**

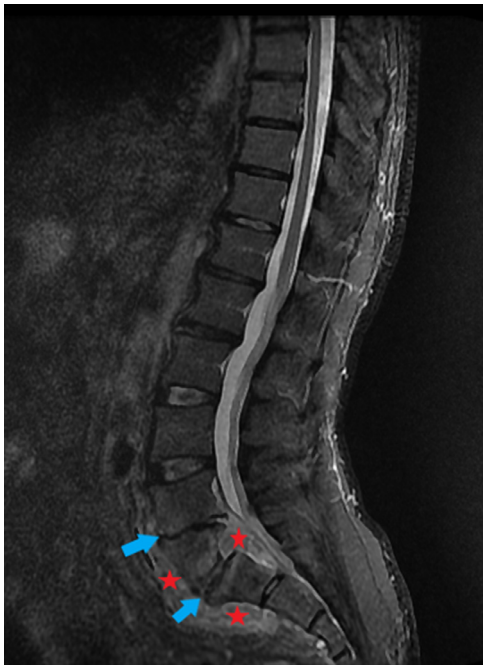
higher [6]. They are dominated by tuberculous spondylodiscitis or Pott's disease, which accounts for 35%-55% of osteoarticular tuberculosis [1,2]. Disco-vertebral involvement always starts from a pulmonary focus from which the Koch's bacilli will spread by the hematogenous route via the vessels of the vertebral, intercostal, and lumbar arteries [7]. Risk factors for Pott's disease include age, promiscuity, diabetes, alcoholism, and immunodepression [6]. Persistent inflammatory spinal pain dominates the clinical picture in 90% of cases [1]. A notion of tuberculous contamination and signs of tuberculous impregnation are very often found during interrogation. Moreover, the total absence of a biological inflammatory syndrome does not exclude the diagnosis of Pott's disease since 12%-50% of patients with this pathology have no biological signs [8]. Because of the more insidious clinical and biological features, diagnosis takes longer, with the formation of abscesses in the perivertebral soft tissues and spinal deformities, sometimes leading to neurological complications [1,2]. Medical imaging



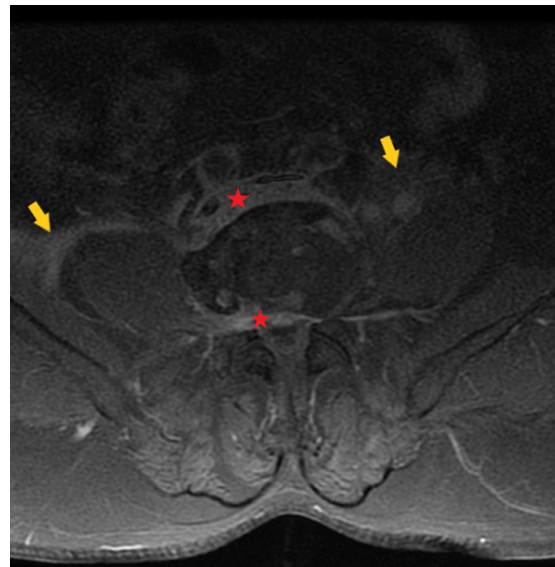
**Fig. 3 – Abdominal CT scan in bone window and sagittal reconstruction showing L4-L5 and L5-S1 spondylodiscitis (arrows).**



**Fig. 5 – MRI in sagittal T1 Fat-Sat Gadolinium confirming abscesses of the soft tissues and epidural spaces (stars).**



**Fig. 4 – MRI in sagittal T2 STIR showing L4-L5 and L5-S1 spondylodiscitis (arrows) with abscesses of the soft tissues (stars).**



**Fig. 6 – MRI in axial T1 Fat-Sat Gadolinium at the L5 level showing bilateral abscesses of the psoas (arrows) and perivertebral soft tissues (stars).**

plays an indisputable role in the diagnosis and management of Pott's disease. The spinal segments reached in order of frequency are the lumbar spine at 60%-70%, the dorsal spine at 23%-35%, and the cervical spine at 5%-15% [2]. MRI is the examination of choice for the investigation and early diagnosis of tuberculous spondylodiscitis [3]. It is more sensitive than

CT and is better able to assess disco-vertebral lesions and damage to the perivertebral soft tissues and epidural spaces. The appearance is highly suggestive, even pathognomonic, in the presence of macro-geodes mirroring the plateaus, which may contain bone sequestration, and cold abscesses, which are per-vertebral collections showing a liquid signal on MRI [9]. These abscesses sometimes contain calcifications and are large in size, extending over more than 3 vertebral levels with clear boundaries. Epiduritis is common and involves the





**Fig. 7 – CT-guided disco-vertebral puncture biopsies for bacteriological and histological purposes.**

posterior longitudinal ligament, giving rise to the curtain kiss sign. However, an MRI can be missed if it is carried out very early, which is why it is advisable to carry out a new MRI if the first examination is noncontributory [3]. CT is also an effective tool for investigating spondylodiscitis and can be used as a first-line treatment when MRI is unavailable or not indicated [4]. Initially, and even more so in the acute phase, it shows erosions of the vertebral endplates, subchondral geodes with a mirror-like appearance, intradiscal hypodensity, and sometimes bone sequestration [10]. It is also the best current method for guiding the drainage of abscesses in the perivertebral soft tissues and performing disco-vertebral puncture biopsies for bacteriological and histological analyses. The aim of these biological tests is to confirm the tuberculous origin of the spondylodiscitis and also to look for other germs (pyogenic or fungal) and lesions suspected of being atypical [11]. Standard radiography is currently of very little use in the investigation of tuberculous spondylodiscitis. It is used as a means of unraveling the problem and, in the initial phase, can reveal mirror-image erosions of the 2 vertebral endplates, a pinched disc, and swelling of the paravertebral soft tissues [4]. Later, at a sequelae stage, it shows vertebral blocks due to the fusion of the vertebral bodies affected. Ultrasound has a limited role in the investigation of infectious spondylodiscitis in general. It will enable us to look for soft tissue abscesses such as the psoas, and any visceral location of tuberculosis and to guide puncture and drainage of abscesses [1].

## Conclusion

Tuberculous spondylodiscitis is responsible for the destruction of intervertebral discs and vertebral bodies, with

abscesses of the perivertebral soft tissues. These abscesses may extend into the right iliac fossa, sometimes simulating an appendicular syndrome. Medical imaging (MRI and CT) plays a key role in the positive diagnosis and management of Pott's disease.

## Patient consent

We certify that we have obtained informed consent of the patient for the use of information concerning his pathology for publication purposes. In addition, all personal data concerning the patient has been deleted.

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