



(CASE REPORT)



SACRO-ILIAC TUBERCULOSIS: A RARE AND UNUSUAL BONE MANIFESTATION

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ABSTRACT

Osseous tuberculosis in children is a rare but potentially severe condition requiring early management. We report the case of an 8-year-old child presenting with diffuse joint pain for three months, associated with a febrile limp a week before admission. Clinical examination revealed tenderness at palpation of the left sacroiliac joint, and moderate fever. Initial radiographs showed erosions of the sacroiliac joint, with loss of bone density and increased peri-articular density and a CT scan confirmed the presence of bone lucent lesions, along with abscesses in the surrounding soft tissues. Diagnosis was confirmed through a biopsy, which revealed the presence of Mycobacterium Tuberculosis. This case highlights the importance of clinical awareness and imaging in the early diagnosis of osseous tuberculosis, particularly in atypical forms such as sacroiliac joint involvement in children.

Keywords: Tuberculosis, Bone, Infection, Pediatrics, Sacroiliac, Joint, CT-scan.

1 INTRODUCTION

Osteoarticular tuberculosis accounts for 3–5% of all tuberculosis cases and 15% of extrapulmonary forms [1], with the spine, hip, and knee being the most commonly affected sites [2,3]. Rare localizations, such as the sacroiliac joint, are poorly documented, particularly in children, and often mimic other conditions like septic arthritis or malignancy. This article reports a rare case of pediatric sacroiliac joint tuberculosis, showing the importance of CT in the diagnosis process.

2 CASE REPORT

An 8-year-old child was admitted to the emergency room for a 3-month history of diffuse joint pain, progressively worsening. A week prior to admission, the child developed febrile limping. On clinical examination, tenderness was noted over the left sacroiliac joint, associated to a low-grade fever. No visible swelling or erythema was noted, and the child had no history of trauma.

Initial radiographs of the pelvis were performed, showing some signs of joint involvement, including a heterogeneous aspect of bone's density, mild joint space narrowing and soft tissue elevated density. However, the radiographic findings were not conclusive, and the cause or extent of the lesions couldn't be clearly determined. The ongoing symptoms and imaging aspect raised suspicion for a more aggressive condition either infectious or malignant, prompting further imaging with a contrast-enhanced CT scan.

The abdomino-pelvic CT scan showed osteolytic lesions in the right iliac wing with cortical disruption at multiple sites. A discontinuous spiculated periosteal reaction was present in several areas (figure1). The CT scan also showed the extension of the lesions to surrounding soft tissues, including the iliac and gluteal muscles. Hypodense collections with enhanced walls were noted after contrast administration, indicative of abscess formation (figure2). There was also a significant infiltration of the surrounding fat tissue, suggesting the spread of infection beyond the bone. At the level of thoracic sections, the presence of bilateral cavitory nodules were observed (figure3), which led to more of an infectious aggressive origin than malignant one.

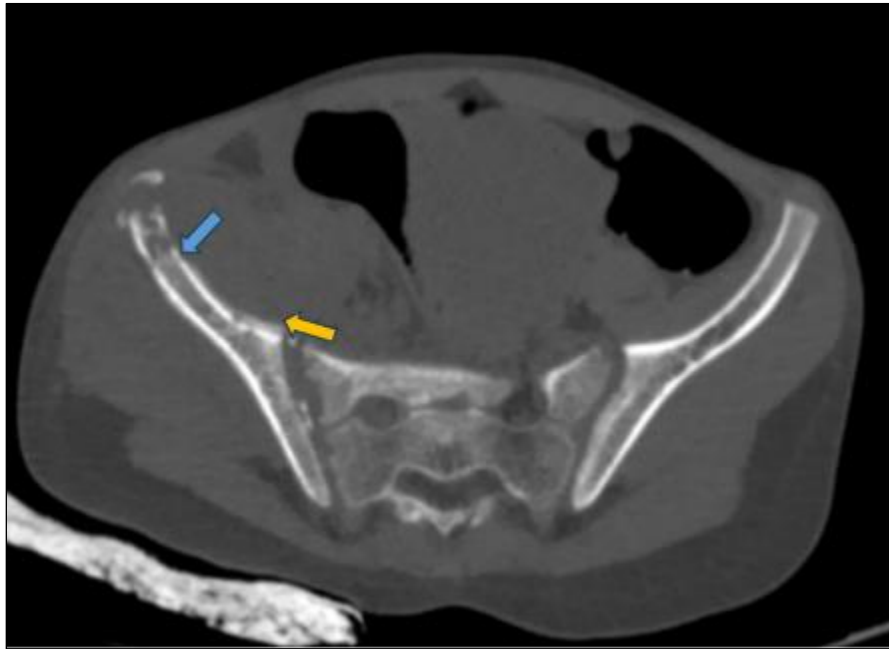


Figure 1: Axial CT scan showing osteolytic lesions in the right iliac wing with cortical disruption at multiple sites associated with a periosteal reaction in several areas.

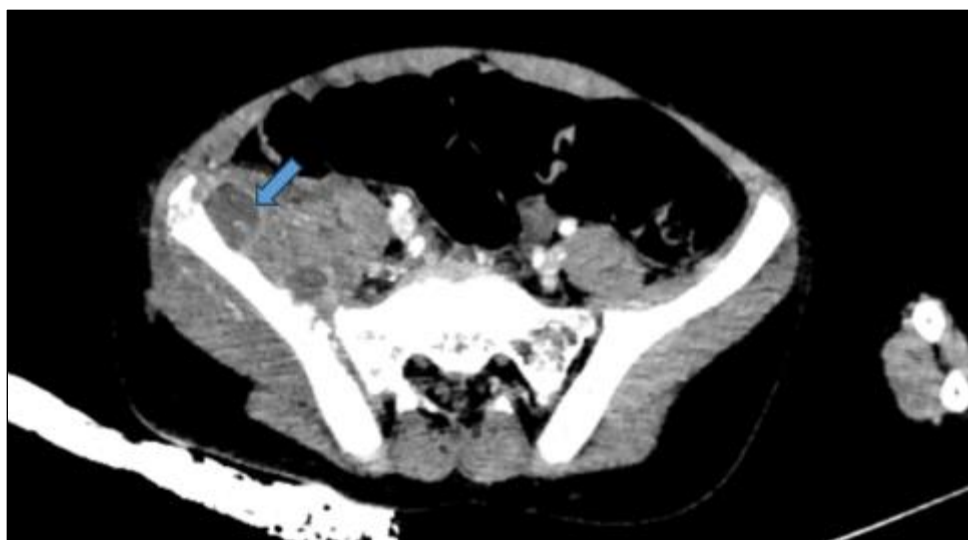


Figure 2: Contrast-enhanced axial CT scan showing extension of the lesion into adjacent soft tissues, including the iliac and gluteal muscles through hypodense collections with enhanced walls suggestive of abscess formation.



Figure 3: Axial CT scan at the levels of thoracic sections showing excavated pulmonary nodules in both lower lobes.

To confirm the diagnosis, a biopsy of the iliac lesion was done and histopathological analysis confirmed the presence of *Mycobacterium tuberculosis* leading to the diagnostic of both a pulmonary and osteoarticular tuberculosis.

The patient was promptly put on an anti-tuberculosis regimen consisting of rifampicin, isoniazid, pyrazinamide, and ethambutol, associated to surgical drainage of the abscesses in the iliac and gluteal muscles, providing symptom relief. The child's condition improved with the initiation of treatment, with fever subsiding and better pain control. Follow-up evaluations were scheduled to monitor the patient's response to treatment and prevent any further complications.

3 DISCUSSION

Osteoarticular tuberculosis infection, particularly in the sacroiliac joint is rare, accounting for 1-2% of septic arthritis and 5-10% of skeletal tuberculosis cases. The infection is often due to a hematogenous spread via the pelvic venous plexus or from adjacent vertebral infections [4]. Clinical manifestations may vary and be insidious, going from a slight discomfort to a painful joint with limited mobility, abscess formation and fistulization, with or without fever, which makes symptoms nonspecific and may delay diagnosis [5].

Imaging modalities require an X-Ray at first (low radiation), which may or may not show early-stage changes in SIJ infections, such as joint heterogeneous bone density, bone lucency, erosions or cortical margin loss that may be seen at a delayed stage often developing over months. In case of symptomatic patients with a doubtful X-Ray lesion, a complementary CT scan or MRI would be more sensitive in the early stages, revealing key findings such as bone marrow edema in the iliac or sacral bones, soft tissue edema, joint space widening, abscess formation, and capsular distension [4]. A CT-scan is an imaging modality easily accessible in the ER for underdeveloped countries more than an MRI. It can be sufficient in evaluating bone lesions, the extent of the infection, guiding biopsy procedures, and abscess drainage. It may lead the diagnosis of an infectious aggressive lesion, however, it can't differentiate between pyogenic and granulomatous infections, such as TB, especially in our case where the main differential diagnosis is Staph infections (*Staphylococcus aureus*). Therefore, Clinical findings, microbiological culture, and PCR testing remain necessary for accurate diagnosis [6].

4 CONCLUSION

Osteoarticular tuberculosis (OA-TB) remains a rare condition, particularly in pediatric populations, usually presenting with nonspecific symptoms. This spreads the awareness of sacroiliac joint tuberculosis, in pediatric population in endemic countries, although it is rare and often underrecognized, early diagnosis and treatment with anti-tuberculosis therapy and surgical drainage may lead to significant clinical improvement, preventing further functional complications and ensuring positive outcomes.

STATEMENTS ON COMPLIANCE WITH ETHICAL STANDARDS

Disclosure of conflict of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Statement of informed consent

Written informed consent was obtained from a legally authorized representative(s) for anonymized patient information to be published in this article.

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