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Case Report

Osteomyelitis of the Acetabulum in a Child: A Case Report of an Unusual Localization

Wadia Montassar[1*], Ben Chaalia Malek[1], Ziadi Hamdi[1], Mohamed Salem Zein[1], Lahssini Wael[1], Mohamed Amine Bennour[1]

[1]Faculty of Medicine of Tunis, University Tunis El Manar, Department of Orthopedic Surgery, Habib Bougatfa Hospital, Bizerte, Tunisia

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Abstract: ***Introduction*:** Acute haematogenous osteomyelitis (AHO) of the acetabulum is a rare condition in children. ***Presentation of case*:** We report a rare case in a ten-year-old child who had an acute presentation with new-onset hip pain and fever evolving for one week. The standard radiograph was without abnormalities. Emergency MRI showed osteoarthritis of the hip, with a 15 mm internal acetabular subchondral lacuna. Therefore, the child had antibiotic therapy. Pain relief and radiological improvement was obtained after 3 months of antibiotic treatment. At a two-year follow-up, the X-ray was normal. ***Discussion*:** Diagnosis is delayed because of the deep-seated location. Staphylococcus aureus is the most common causative organism. In the event of strong clinical-radiological suspicion, empirical treatment must be started rapidly, in order to obtain satisfactory results. ***Conclusion*:** Because of the atypical location of acute osteomyelitis of the acetabulum, diagnosis can be delayed. In some cases, treatment may be based on antibiotics therapy alone.

Keywords: Case report, Pediatric, acute osteomyelitis, acetabulum.

INTRODUCTION

Acute hematogenous osteomyelitis of the acetabulum (AHOA) is a rare condition in children. Diagnosis can be difficult as pain may be referred to the hip, thigh or abdomen due to the deep location of the infection [1]. The aim of the present study is to highlight this condition in order to improve early diagnosis and specific therapy.

This subject has been reported online according to SCARE criteria.

CASE REPORT

We report the case of a ten-year-old child who was presented to the orthopedic emergency department for inflammatory pain of the right hip. This symptomatology has been evolving for one week and there was no history of trauma. The child has no medical no surgical history, nor trauma nor open fracture nor an infectious episode nor sickle cell disease.

The patient had a good overall health but (39 ◦C) without slight inflammatory signs of the skin and a pain at palpation and mobilization of the hip. The homolateral knee and the femoral diaphysis had normal full painless range of motion and there was no evidence of infectious disease. The spine assessment was strictly normal. At the vascular examination, distal pulses were present, and there were no trophic skin abnormalities. The white blood-cell count = 7200 elements/ml, the erythrocyte sedimentation rate = 100 mm at the 1st hour and the C-reactive protein = 76.6 mg/dl. The pelvis X-ray (Fig 1) was normal. Ultrasound showed medium abundance effusion of the hip without periosteal abscess.

MRI revealed a moderate amount of intra-articular effusion of the hip, with a 15-mm subchondral lesion in the roof of the acetabulum (Fig 2, 3).

The child had enteral antibiotics Amoxicillin-Clavulanic Acid 3 g per day for three months and discharge of the limb for 6 weeks. The clinical evolution was good with a pain relief one week after the treatment onset. At a two-year follow-up, there was no clinical or radiological abnormalities.

***Corresponding Author:** Wadia Montassar
Faculty of Medicine of Tunis, University Tunis El Manar, Department of Orthopedic Surgery, Habib Bougatfa Hospital, Bizerte, Tunisia

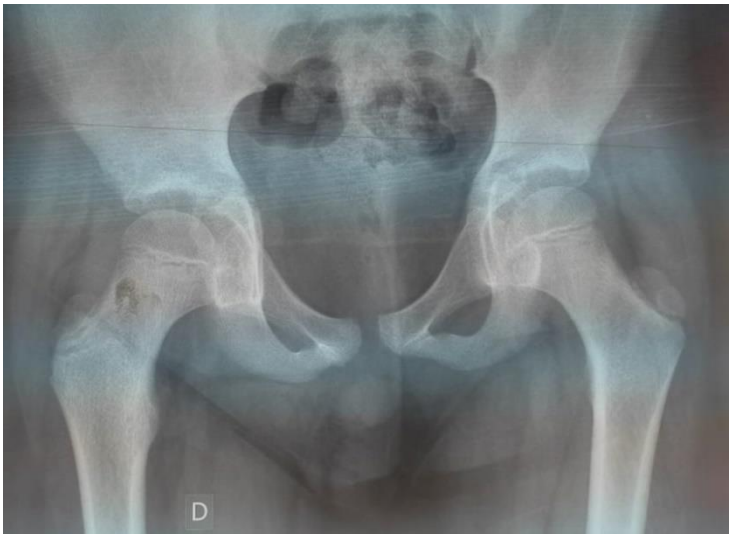

Figure 1: The pelvis X-ray without abnormalities

Figure 2: MRI chowing medium abundance effusion of the hip

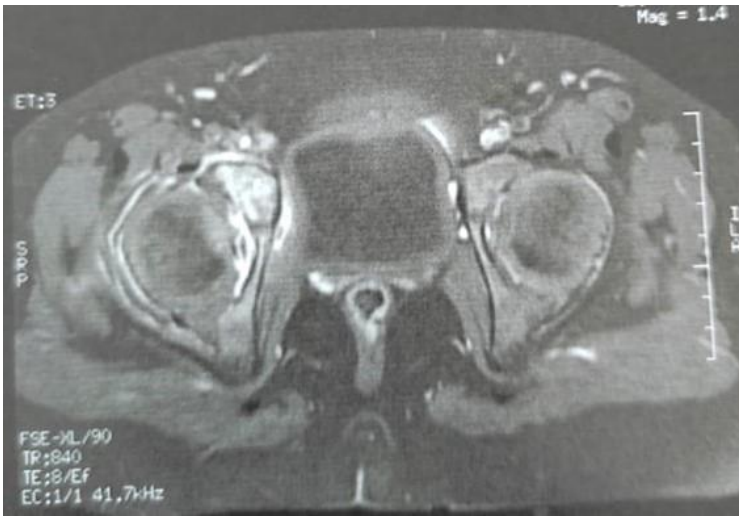

Figure 3: MRI chowing the lesion in the roof of the acetabulum

DISCUSSION

The anatomical sites most frequently involved in pelvic AHOM in the literature are the iliac bone (38%), the ischium (19%), the pubis in 14% of cases and the acetabulum in 12% of cases [2].

The relatively low incidence can make this condition difficult to diagnose at an early stage, and the clinical signs may be confused with other more common paediatric conditions, such as appendicitis [3].

Early recognition of osteomyelitis and appropriate treatment is essential to achieve optimal results and avoid potentially serious sequelae such as necrosis of the hip joint or disruption of the triradiate cartilage and abnormal growth of the acetabulum.

The notion of trauma has been reported in 17-26% of cases of acute pelvic osteomyelitis, compared with an incidence rate of 30-40% of previous trauma in classic acute childhood osteomyelitis, which is attributed to the trauma-resistant nature of pelvic bones in children [4].

Standard radiography of the pelvis is often without abnormalities during the acute period, MRI is the gold standard with 97% sensitivity and 92% specificity for the diagnosis of infection in the acute period [5] showing in signal abnormalities of the acetabulum contrast enhancement of adjacent soft tissues.

The most common pathogen of pelvic osteomyelitis is S. aureus in 90% of cases [6], although other germs are described in the literature. Puri *et al*., [7] describe a case of acetabular osteomyelitis due to B. henselae, a germ that should be considered in patients who have been exposed to cats or who do not respond to typical treatments.

Surgical indications include evacuation of sub-periosteal collections or adjacent abscesses, in cases of joint extension to reduce the risk of serious complications such as permanent cartilage damage, lack of response to antibiotics or to obtain specimens to guide antibiotic therapy selection [8].

CONCLUSION

Acetabular osteomyelitis is a rare disease. Diagnosis is often delayed. Treatment is controversial. Results are good with appropriate antibiotic therapy, but a surgical option is often adopted.

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