

Hip Osteomyelitis: A Pediatric Clinical Case Reported at Hospital General Enrique Garcés

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Abstract

Osteomyelitis of the hip is a rare infection in the pediatric age, which usually affects the ilium, ischium, pubis and acetabulum. Its diagnosis is complex and it is delayed due to the deep location of the infectious focus, which requires a magnetic resonance imaging for its accurate diagnosis. This article presents the clinical case of a 5-year-old patient with pain in the right hip after trauma, which was diagnosed with pelvic osteomyelitis at the Hospital Enrique Garcés received intravenous antibiotic treatment for 30 days, with satisfactory results. In conclusion, although pelvic osteomyelitis is an unusual infection in pediatrics, it is an important disease due to the complications it can cause if it is not treated in time, so it is necessary to begin empirical treatment immediately, in order to achieve satisfactory clinical results with the effective treatment.

Keywords: Osteomyelitis of the Hip; Pediatric; Diagnosis

Introduction

Osteomyelitis is described as a bone inflammation caused by a pyogenic infection. The incidence that is generally considered is from 1: 5000 to 2: 10,000 children per year [1] (Indexed journal magazine). Males are twice as affected as females [2,3]. Most children with osteomyelitis are younger than 5 years old.

The most common location of this pathology in children is the metaphysis of long bones, with osteomyelitis of the pelvis being rare. It is generally caused by direct inoculation of traumatic wounds, by diffusion from adjacent tissue affected by cellulitis or septic arthritis, or by hematogenous seeding. Its causative agent in most cases is *Staphylococcus aureus* [1,4]. In reported cases of pelvic osteomyelitis in children, the pubic bone is the most affected, it must be taken into account that the clinical presentation of this pathology is variable and inconsistent, which contributes to delayed diagnosis [5-8].

On average, the correct diagnosis is delayed for 12 days and this can lead to significant morbidity [9-13].

This case report stands out for the presentation of acute hip osteomyelitis in a 5-year-old boy.

Clinical Case

Male patient aged 5 years 9 months, born in the city of Quito. Without a significant pathological history, he went to the emergency room for presenting hip pain, 48 hours of evolution, having as apparent cause trauma due to falling from his own height in the school pool. Anti-inflammatory treatment is provided, the pain subsides partially, but after 12 hours it increases in intensity, so he goes to a private doctor, the same one who performs a hip x-ray (Illustration 1) and reports a hip fracture and is referred to the Hospital General Enrique Garcés.

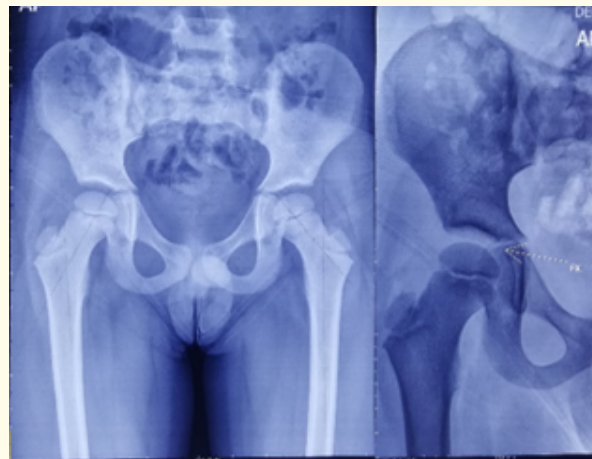


Illustration 1: Complementary examination, radiography of the anteroposterior pelvis.

Initially, in the emergency a computed tomography scan of the hip was requested (Illustration 2) and traumatologists managed as an acetabulum fracture, with ibuprofen orally, with partial improvement.

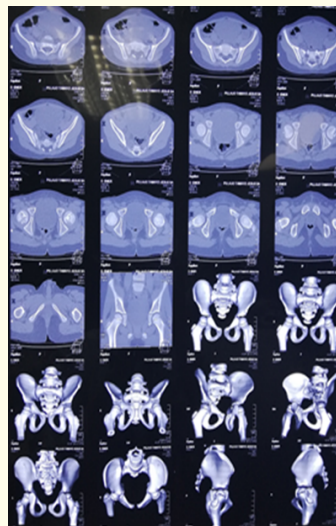
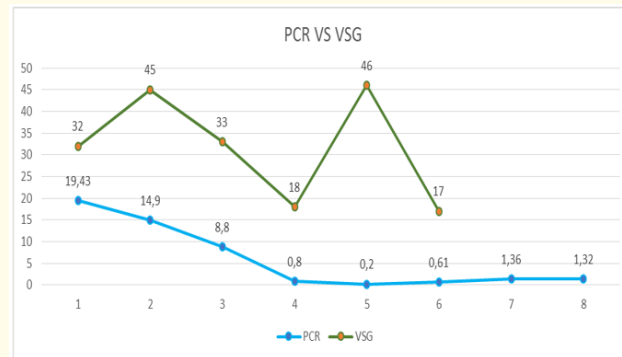


Illustration 2: Emergence requires a computed tomography of the hip with 3D reconstruction of the pelvis and traumatologists manage as an acetabulum fracture.

At 48 hours the patient comes to the outpatient clinic presenting tachycardia, abdominal pain and palpation pain in the thigh accompanied by edema, flexion 90°, extension 15°, internal and external rotation 25°, arches of painful mobility and limitation to ambulation. Laboratory tests are requested to rule out septic arthritis, finding the following results: neutrophilia biometry, PCR of 19.43 mg/dl (high value), VES 30 mm/h dl (high value) (Graph 1) and soft tissue ultrasound of the right hip reports: slight increase in the inter-articular fluid.



Graph 1: PCR vs. ESR where high levels of CRP (19.43) and ESR (32) are evidenced on the first day of analysis for osteomyelitis, it is evident that as the oxacillin antibiotic is incorporated, the values decrease, especially CRP and at 5 day the SGBV peaks where amikacin is established.

Due to abdominal pain, an echo of the abdomen was also requested, which is normal, however, evaluation was requested by pediatric surgery who ruled out acute surgical abdomen.

It is noteworthy that during his hospitalization, the result of the rate of globular erythro sedimentation (ESR) was increasing, as was the CRP, which is why septic arthritis is suspected and antibiotic treatment with oxacillin 200 mg/kg/day is started.

Laboratory tests were performed 48 hours after entering the apartment: C-reactive protein (PCR) 8.80 mg/dl, neutrophilia, thrombocytosis (561,000 k/ul), procalcitonin 0.53 (high value), ESR 45 mm/h and negative blood culture.

Despite antibiotic treatment in control exams, it persists with increased acute phase reactants, so it was decided to extend the study of the patient and request an MRI of the hip in which a discreet inflammatory process in the right gluteus medius, trabecular crest edema is evident. right iliac and sacrum, alpha angle in the right hip conserved, hip joint space conserved for what is diagnosed with osteomyelitis of the right hip (Illustration 3) and it was decided to continue with antibiotic treatment with oxacillin and continue to perform acute phase reactant controls for assess evolution and response to treatment.

On day 30 of treatment there is a significant decrease in the rate of erythrocyte sedimentation with clinical improvement for which discharge is decided and continue with trimethoprim sulfamethoxazole at 10 mg/kg/day orally, and follow-up will be carried out by the outpatient clinic with control of acute phase.

Discussion

Hip osteomyelitis is a rare pathology in the pediatric age, with an incidence generally of 1: 5000 to 2: 10,000 children per year [1] (Indexed journal magazine). The symptoms are nonspecific, which complicates and delays the diagnosis; it can be confused with abdominal

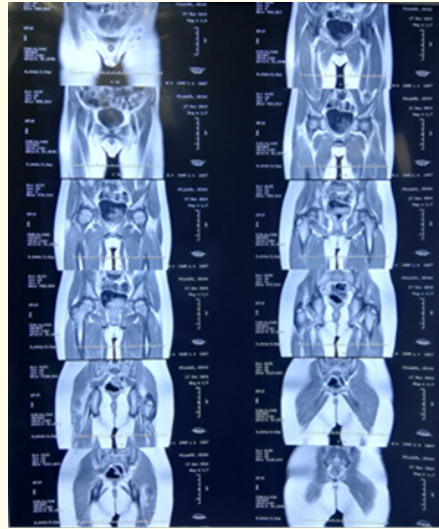


Illustration 3: Magnetic resonance imaging of the pelvis showing a discrete inflammatory process in the right gluteus medius muscle, trabecular edema of the right iliac crest and sacrum, preserved alpha angle in the right hip, and preserved hip joint space for what is diagnosed as hip osteomyelitis right.

pathology; the condition being late diagnosed. With a significant delay in the start of treatment, which favors the progression of the disease and leads to associated complications. Staphylococcus aureus has been documented as the isolated germ in 90% of cases, with less frequency Haemophilus influenzae, Pseudomonas aeruginosa, group A Streptococcus, Escherichia coli and mixed infections. Currently they report cases in which the isolated germ is Kingella kingae, especially in children under 5 years of age.

Our patient presented symptoms after right lower limb trauma, initially managed as septic arthritis, so antibiotic coverage was started, with no clinical or laboratory improvement. Merited complementary laboratory and imaging tests for the definitive diagnosis. Once established, he received specific treatment with clinical evolution and favorable laboratories.

Magnetic resonance imaging has high sensitivity to evaluate pelvic infections, so this diagnostic technique should be considered to be performed early in patients with nonspecific symptoms.

Conclusion

Osteoarticular pathologies in pediatric age can represent a diagnostic challenge due to the nonspecific presentation of the symptoms. However, the high degree of suspicion and the performance of complementary examinations help us to reach the definitive diagnosis and to initiate treatment promptly.

Conflict of Interest

The authors declare that they have no conflict of interest in the publication of this article.

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