LIMPING CHILD; SEPTIC ARTHRITIS OR FAMILIAL MEDITERRANIAN FEVER?

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SUMMARY: Acute limping child is one of the most important problems of pediatric emergency, which demands great caution. Here we presented a case diagnosed first with sinusitis, followed by septic arthritis, and appendicitis and finally diagnosed with the Familial Mediterranean Fever (FMF). The aim of this report is to remind clinicians to suspect FMF in the case of acute limping child.

Key Words: Limping Child, Septic Arthritis, Familial Mediterranean Fever

INTRODUCTION

Differential diagnosis of limping child is one of the most important problems of pediatric orthopedics. Toxic synovitis, acute rheumatic fever, rheumatic diseases, post-infectious reactive arthritis, avascular necrosis, bony attack of sickle cell disease, discitis, toddler fracture of child's tibia, discoid meniscus, some joint pathologies like osteochondritis dissecans, some bone tumors like Ewing sarcoma, and osteosarcoma and some blood diseases like leukemia are a few examples of differential diagnosis of limping child (1,2). Here we report a case who was diagnosed with septic arthritis although he had an attack of Familial Mediterranean Fever (FMF) (3) which should be remembered in case of septic arthritis suspicion.

CASE REPORT

A 6-year-old boy was brought in the emergency department with complaints of headache, fever, runny nose, and right lower extremity pain. His detailed history, revealed that he had a fever between 37.5°C and 39.5°C for 3 days. He was diagnosed with sinusitis the day before admission, and amoxicillin with clavulonic acid, paracetamol and ibuprophene were prescribed to him. The level of his C-reactive protein was 40 mg/L, and the white blood cell count was 21.000 per micro liter (μL). A single dose of 500 mg ceftriaxone was also injected intramuscularly to the boy. His father mentioned that the boy had an acute sharp pain in the back of his right knee 2 days ago. His detailed disease history was clear except frequent bronchiolitis.

The physical examination was normal, but he still had pain in the back of his right knee, causing painful knee and hip motion. He was hospitalized, and intravenous ceftriaxone and hydration treatment were started. His abdominal examination was normal at the beginning of his hospitalization.

The X-ray showed no pathologic lesion in his lower extremities and joints. The MRI investigation showed minimal fluid in the subperiosteal region of his distal femur. This fluid was interpreted with hemorrhage secondary to trauma (Figures 1, 2). Although his pelvis MRI showed no pathologic sign except the minimal free fluid, septic arthritis4 of the hip was suspected (Figure 3). An ultrasound-guided joint aspiration was planned to rule out septic arthritis. On an ultrasonographic investigation, no fluid was observed in his hip joint, but his appendix was inflamed. He was suspected to be diagnosed with appendicitis, and the patient was consulted to a pediatric surgeon. However, his clinical signs and symptoms did not confirm appendicitis. Although his family history was negative for FMF, colchicine treatment was started before operating him to rule out the diagnosis of FMF. His pain and high fever already subsided on the third day of his hospitalization; his conditions improved dramatically after starting colchicine. His appendix was absolutely normal on his control abdominal ultrasonography. Finally, the patient was diagnosed with FMF.

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DISCUSSION

Acute limping child is one of the most important problems of pediatric emergency, which demands great caution. Here we presented a case diagnosed first with sinusitis followed subsequently by septic arthritis and appendicitis, and finally diagnosed with FMF.

Septic hip arthritis, osteomyelitis and appendicitis may also get misdiagnosed with each other (5-7). Iliopsoas muscle irritation may take a role in this clinical confusion.

FMF is a hereditary autosomal recessive, autoinflammatory disorder characterized by recurrent, self-limiting episodes of short durations (mean 24-72 h) of fever and serositis (3). FMF commonly affects Turks, Jews, Armenians, and Arabs. The classical clinical findings of FMF consist of recurrent self-limited attacks accompanied by peritonitis, arthritis and erysipelas such as erythema (8). Amyloidosis is the most severe complication of FMF. Colchicine treatment not only decreases the frequency and severity of attacks, but also prevents amyloidosis (9).

Had FMF not been suspected in this case, the patient would have been operated after the diagnosis of appendicitis, and the symptoms of FMF would have been aggravated until the attack of FMF.

In this case report, we would like to remind clinicians to suspect FMF (10) in the case of acute limping child.

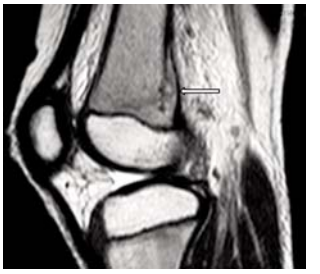

Figure 1: Subperiosteal fluid (probably hemorrhage) is shown by the arrow on a sagittal MRI section of the patient's right knee.

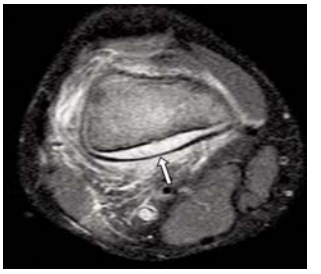

Figure 2: Subperiosteal fluid (probably hemorrhage) is shown by the arrow on an axial MRI section of the patient's right knee.

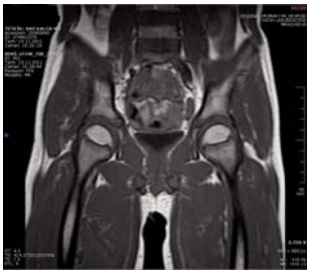

Figure 3: A coronal MRI section of the patient's pelvis shows no abnormality except minimal free fluid.

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REFERENCES

1. Atalar H. Osteomyelitis and Septic Arthritis in Children. J Pediatr Inf 2009;3(Suppl 1):101-4

2. Sawyer JR, Kapoor M.The limping child: a systematic approach to diagnosis, Am Fam Physician 2009;79(3):215-24.

3. Fonnesu C, Cerquaglia C, Giovinale M, Curigliano V, Verrecchia E, de Socio G, La Regina M, Gasbarrini G, Manna R. Familial Mediterranean Fever: a review for clinical management. Joint Bone Spine. 2009;76(3):227-33.

4. Pääkkönen M, Peltola H. Management of a child with suspected acute septic arthritis. Arch Dis Child 2011;Sep 27

5. Prabhu AS, Balan S. Approach to a child with monoarthritis. Indian J Pediatr 2010;77(9):997-1004.

6. Scillia A, Cox G, Milman E, Kaushik A, Strongwater A. Primary osteomyelitis of the acetabulum resulting in septic arthritis of the hip and obturator internus abscess diagnosed as acute appendicitis. J Pediatr Surg 2010;45(8):1707-10.

7. Montero LA, Fernández CM. Hip septic arthritis as presentation form of acute appendicitis. Enferm Infecc Microbiol Clin 1998;16(4):205.

8. Yavascan O, Aksu N, Demir K, Sarioglu S, Kara OD, Bal A. Immunoglobulin M nephropathy in familial Mediterranean fever. Indian J Nephrol 2007;17:170-3.

9. Bakkaloglu A. Familial Mediterranean fever. Pediatr Nephrol 2003;18(9):853-9.

10. Sinasi O. Difficulty in walking and sacroiliac pain. New Journal of Medicine 2001;18(5):295-296.

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