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Psoas abscess with associated septic arthritis of the hip in infants☆,☆☆

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Abstract We describe psoas abscess with concomitant septic hip arthritis in 2 infants, 3 and 7 months old. The common clinical features were a palpable mass in the inguinal region, irritable hip, and delayed treatment. The diagnosis of septic hip was delayed in one child, and they both had residual hip deformity at follow-up. It is possible that initial delay in diagnoses resulted in the concurrent pathologic condition because of spread of infection. These 2 cases demonstrate the first known reports of concurrent psoas abscess and septic hip arthritis in infancy. Magnetic resonance imaging is a valuable method to identify these concurrent pathologic conditions. A proposed etiologic mechanism is also discussed in the article.

Psoas abscess and septic arthritis of the hip are both uncommon conditions in infants. To our knowledge, there are no reports in the literature describing the simultaneously occurrence of these pathologic conditions in one patient. The diagnosis is challenging because of overlapping clinical symptoms and similar presentations. This report describes the clinical and radiologic presentation and management of this uncommon condition in 2 infants.

1. Case series

1.1. Case 1

A 3-month-old girl with continuous high fever for 10 days was hospitalized for treatment. Upon admission, her temperature was 38.6°C and a subcutaneous abscess on the right shoulder was noted. The laboratory findings showed a white blood cell (WBC) count of 48.5×10^9/L with a normal differential count and a C-reactive protein (CRP) level of 243 mg/L. Incision and drainage of the shoulder abscess was performed under local anesthesia. Intravenous ceftriaxone sodium was initiated and continued for 4 days.

At that time, the bacterial culture from the shoulder abscess grew *Staphylococcus aureus* (*S aureus*). Blood culture had negative results, and the WBC count was 25.8×10^9/L. Her

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temperature had defervesced to 37.2°C, and the antibiotic was changed to intravenous cefepime hydrochloride.

Repeat examination found improvement in the shoulder, but the left hip was maintained in a flexed and externally rotated position. Moreover, there was a palpable mass in the iliac fossa. An anteroposterior radiograph of the pelvis demonstrated subluxation of the left hip. Magnetic resonance imaging (MRI) demonstrated lesions of long T1 and long T2 signal in her left retroperitoneal space and hip that suggested simultaneous occurrence of a psoas abscess and a septic arthritis of the left hip (Fig. 1A and B).

An open drainage of the psoas abscess and left hip was performed on the fifth day of hospitalization using a mini Letournel-and-Judet approach (anterior iliofemoral approach). This was followed by 4 weeks of postoperative immobilization in a hip spica cast. The abscess culture subsequently grew *S aureus.* A rapid recovery followed, and the child was discharged from the hospital after 3 weeks of intravenous antibiotic therapy. At her last follow-up visit at 3 years, there was no sign of recurrence, but growth disturbance of the left proximal femur was evident (Fig. 1C and D).

1.2. Case 2

A 7-month-old boy with intermittent fever for 13 days and limited left lower extremity motion for 10 days was evaluated. His highest temperature was 37.8°C. His left hip was held in flexion, abduction, and external rotation at rest and was irritable with passive motion. A mass was palpable in the left iliac fossa. Anteroposterior radiographs showed a mild subluxation on the left hip (Fig. 2A). Magnetic resonance imaging demonstrated an abscess in the left iliac fossa region with edema in and around the hip (Fig. 2B). His laboratory evaluation resulted in a WBC count of 27.5×10^9/L with 87.1% segmented neutrophils on differential count, a CRP level of 240 mg/L, and an erythrocyte sedimentation rate of 60 mm/h. Broad-spectrum antibiotic was initiated.

Surgical intervention was performed through a retroperitoneal approach, and approximately 70 mL of purulent fluid was drained. The purulent fluid culture subsequently grew *S aureus*. On the second day after operative drainage, his temperature and laboratory studies demonstrated a rapid return to normal that lasted for 10 days. However, at that

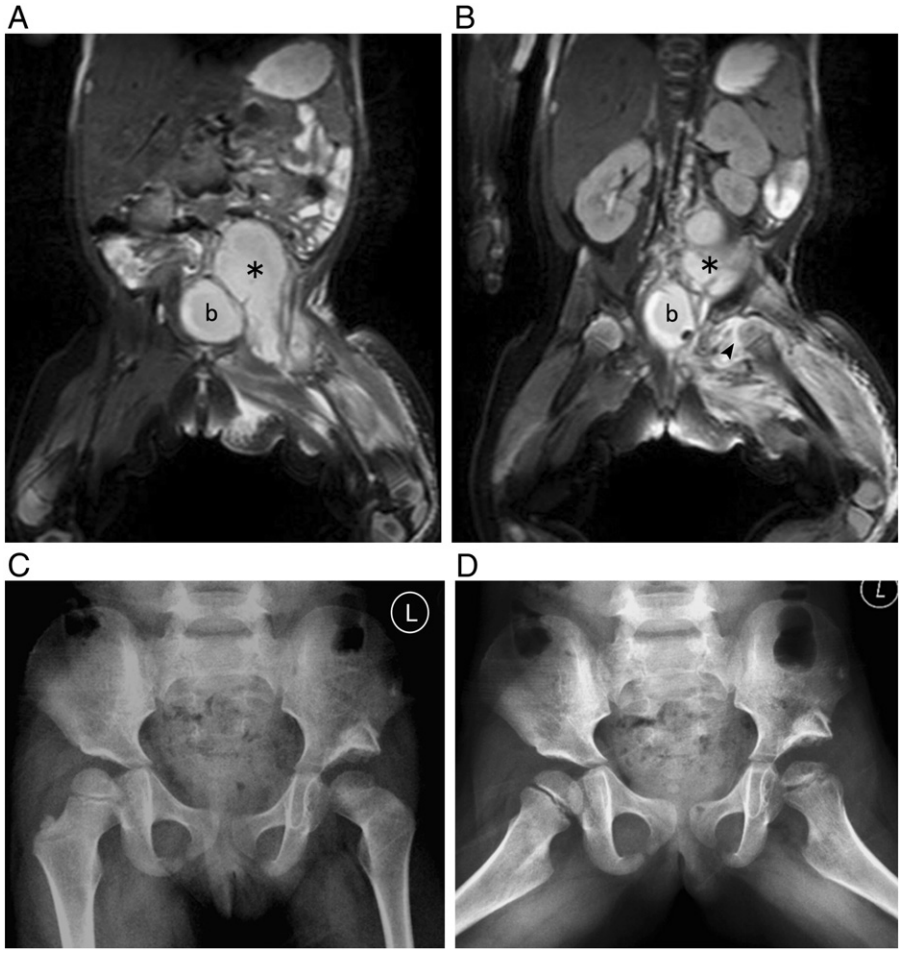

Fig. 1 T2-weighted series of the MRI showing the psoas abscess next to left hip (A) and effusion and subluxation of the hip (B) in case 1 (asterisk indicates psoas abscess; b, bladder; arrow head, hip effusion). (C and D) X-ray plain films showing sclerotic acetabular roof and growth disturbance of the left proximal femur at 3 years of follow-up of case 1.