

Ilio-psoas abscess in neonates

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Abstract. We report two cases of primary ilio-psoas abscess in neonates diagnosed by CT and sonography. Ilio-psoas abscess is extremely uncommon in this age group.

Ilio-psoas abscess is uncommon in children, and very rare in the neonate. To our knowledge, only two previous cases of ilio-psoas abscess in neonates have been reported [1, 2]. We present two additional cases of ilio-psoas abscess presenting in the neonatal period. CT scans identified the abscess in both patients and provided guidance for needle aspiration in one case. Sonography demonstrated the abscess in the one case in which it was performed.

Case reports

Case 1

This white male was born at thirty-six weeks gestation by induced vaginal delivery for Rh incompatibility. An umbilical venous catheter was placed for exchange transfusions. He responded well to exchange transfusion and was discharged from the hospital. He presented to his local physician at fifteen days of age with a mass in the right groin. He showed normal range of motion of both hips and was in no apparent discomfort. White blood cell count (WBC) was 8,700/mm³ and erythrocyte sedimentation rate (ESR) was 45 mm/h. Over the next 72 h the patient became febrile to 101.6 °F and developed left knee swelling. Left knee radiograph revealed areas of bony destruction in the distal left femur consistent with osteomyelitis. Aspiration of the left knee yielded three milliliters of purulent fluid (cultures were positive for *Staphylococcus aureus*). He continued to have a right groin mass, but had full range of motion of the right hip. WBC and ESR rose to 20,000/mm³ and 53 mm/h, respectively, with blood cultures positive for *Staphylococcus aureus*. A CT of the pelvis revealed a retroperitoneal abscess on the right. At surgery, an ilio-psoas muscle abscess (which communicated with the right hip joint) was found. At the conclusion of six weeks of intravenous and oral antibiotic therapy, the WBC and ESR were normal. The patient has remained symptom-free for five years, with remodeling of the distal femur and normal ossification of the right femoral head. An evaluation for immunodeficiency was negative.

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Case 2

This white male was born at 42 weeks by spontaneous vaginal delivery. The delivery and immediate postnatal course were unremarkable, and the infant was discharged from the hospital on the second day of life. At three weeks of age, his parents noted decreased movement of his right leg and a preference for holding it in a flexed position. Mild erythema and swelling of the extremity developed over the next 24–48 h. There was no fever or irritability. Physical examination revealed a slightly pale right leg with mild bluish discoloration. The leg was held flexed, and the patient showed signs of discomfort when the leg was moved. There was fullness of the right flank. On admission, the WBC and ESR were 18,600/mm³ and 1 mm/h, respectively. Blood cultures were negative. Sonography revealed an enlarged right ilio-psoas muscle. A pelvic CT scan revealed enlargement of the right ilio-psoas muscle with fluid attenuation centrally consistent with an abscess (Fig. 1). Over the next several hours, the patient's leg became increasingly edematous, discolored, and painful, with the WBC and ESR increasing to 26,000/mm³ and 31 mm/h, respectively. Aspiration of the ilio-psoas mass under CT guidance yielded 3–5 cc of purulent, thick, green fluid; cultures quickly grew *Staphylococcus aureus*. Surgical drainage was performed followed by a 14 day course of intravenous antibiotics. The child did well postoperatively. At time of discharge, WBC and ESR were normal, and there was full range of motion of the right lower extremity. He was continued on one week of oral antibiotics, and has been symptom-free for the past six months.

Discussion

Ilio-psoas abscess is rare in children, and exceedingly uncommon in the neonatal period. We know of only two prior reports of ilio-psoas abscess in the neonatal period [1, 2]. Ilio-psoas abscess may occur primarily or can be secondary to inflammatory lesions of the spine or sacroiliac region, complications of surgery, gastrointestinal tract inflammation or perforation, extension of renal abscesses, or lymphatic spread of pelvic infections [1]. If the cultures grow *Staphylococcus aureus*, the abscess is presumed to be primary in origin, and multiple enteric organisms are usually cultured from secondary ilio-psoas abscesses [3]. Ilio-psoas abscesses are usually treated by surgical drainage, but percutaneous drainage has also been performed

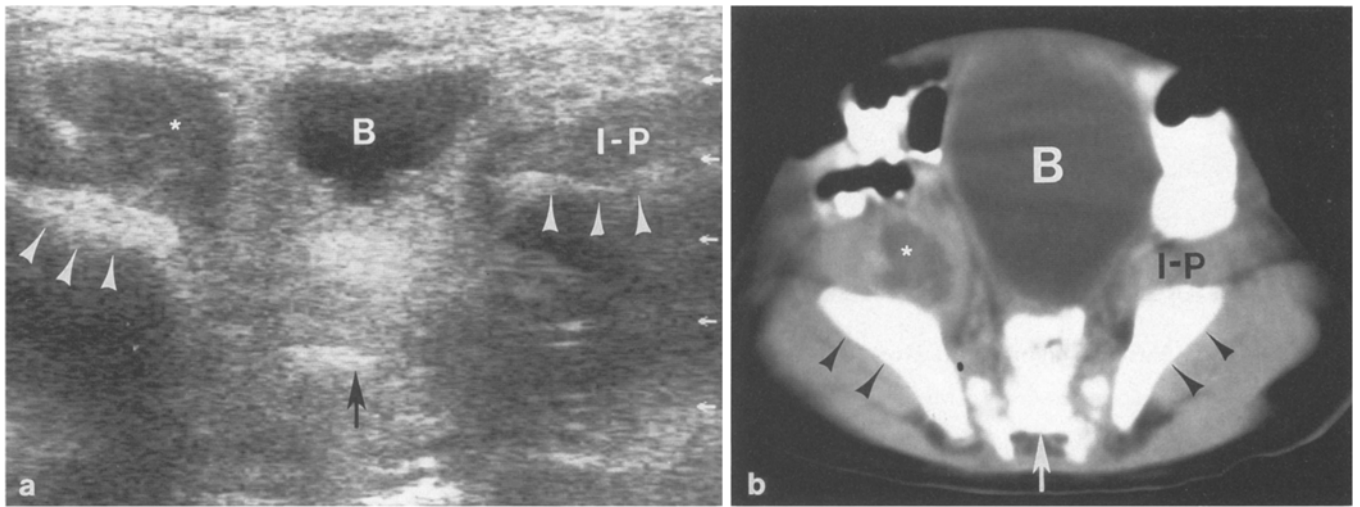


Fig. 1. **a** Transverse (axial) image from a pelvic sonogram in case 2 reveals enlargement of the ilio-psoas muscle on the right (*). The left ilio-psoas muscle is normal (*I-P*). (*B*, bladder; *arrowheads*, iliac bone; *arrow*, sacrum). **b** Contrast-enhanced axial CT scan in case 2 at

the same level as the sonogram in Fig. 1 a confirms the ilio-psoas abscess on the right (*). (*B*, bladder; *arrowheads*, iliac bone; *arrow*, sacrum; *I-P*, left ilio-psoas muscle)

[3, 4]. A recent report has advocated antibiotic therapy without drainage [5].

In the cases we describe, as well as the two previously reported neonatal cases, the patients had primary ilio-psoas abscesses. Although no definite cause for such "spontaneous" primary psoas abscesses has been proven, postulated etiologies have included intramuscular hemorrhage due to the trauma of delivery or blood-borne infection such as in generalized sepsis [1]. It is interesting that one of our patients had an umbilical venous catheter in place in the perinatal period, raising the possibility of bacteremia as a cause of the ilio-psoas abscess. It is also curious that our patients and those previously reported all presented between two and three weeks of age. One might speculate that a psoas muscle hemorrhage at the time of birth or a bacteremic event in the immediate perinatal period may require two to three weeks to develop into a large enough ilio-psoas abscess to cause signs or symptoms sufficient to seek medical attention.

In summary, ilio-psoas abscess should be included in the differential diagnosis when an infant presents in the first

few weeks of life with decreased range of motion of the hip or with discoloration or swelling in the flank or hip. In such cases, CT or sonography can readily identify the abscess and can provide guidance for needle aspiration or for percutaneous drainage.

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