Iliopsoas abscess: an unusual cause of postpartum sepsis

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Summary: Iliopsoas abscess is uncommon in the postpartum period. This case illustrates the presentation of this unusual cause of postpartum sepsis and highlights difficulties in diagnosis.

Keywords: maternal mortality, ultrasound

CASE HISTORY

A 31-year-old caucasian lady, para 4 + 2, presented with left iliac fossa pain and rigors at four weeks postpartum following an unremarkable pregnancy. She delivered spontaneously at home with no midwife present. The placenta was delivered two hours after by a community midwife with no significant blood loss.

Her presenting complaint was constant, severe left-sided lower abdominal pain radiating to the anterior aspect of the upper part of the thigh, becoming progressively more severe over the previous four weeks. This was associated with fever, rigors and vomiting for the past seven days. She described mild dysuria, but no bleeding or discharge per vaginum, and no respiratory or bowel symptoms. She was not breast feeding and had no mastalgia. There was no past history of diabetes, HIV, renal problems, trauma or gait problems. The patient was noted to have an allergy to penicillin.

On admission, temperature was 38.6°C, pulse rate 117 bpm and blood pressure 117/74 mmHg. On examination, the abdomen was soft with extreme tenderness over the left iliac fossa and groin. There was no guarding, rebound or renal angle tenderness. There were no clinical features of deep venous thrombosis. The chest and heart sounds were normal. Speculum examination visualized a normal cervix with no bleeding or discharge. Bimanual vaginal examination revealed an anteverted uterus and left adnexal tenderness but no masses. Examination of both hips and neurological examination of the lower limbs was unremarkable.

Her blood tests were consistent with a diagnosis of sepsis with a raised white cell count, C reactive protein and elevated platelet count. A normocytic anaemia was also noted with haemoglobin of 6.9 g/dL. Midstream urine was positive for nitrites on dipstick testing, whereas a urinary pregnancy test was negative. Multiple cultures of blood and urine taken before antibiotics were commenced showed no growth after 72 hours. High vaginal and endocervical swabs were also negative. The patient was rehydrated and commenced empirically on intravenous ceftriaxone and metronidazole. In view of

symptoms of dizziness, the patient was transfused three units of blood. Transvaginal pelvic ultrasound was unremarkable showing no evidence of a collection of retained products.

Despite antibiotics, the pain and spikes in temperature persisted. Although inflammatory markers remained raised, the patient remained clinically stable and a further transvaginal ultrasound could not locate the cause of sepsis. On the third day after admission, as symptoms had not resolved, a computed tomography (CT) of the abdomen and pelvis was performed. This revealed a left iliopsoas abscess extending down into the left groin (Figure 1). The pus-filled abscess cavity was drained percutaneously under ultrasound guidance without complication. Microscopy of the aspirate demonstrated gram-positive cocci, although there was no growth on culture. On microbiology advice, intravenous ceftriaxone and metronidazole were continued. The patient made a full clinical recovery and was discharged on day five. She received a further seven days of antibiotic therapy on discharge. There was no long-term morbidity or recurrence of symptoms at six weeks.

DISCUSSION

Iliopsoas abscess is an uncommon phenomenon with an incidence of 0.4 cases per 100,000 population per year.¹ The incidence is higher in males, with a male to female ratio of 3:1.² Iliopsoas abscess can be classified as primary or secondary. Primary iliopsoas abscess has higher incidence in patients with diabetes mellitus, renal failure, immunosuppression and intravenous drug abuse. It is hypothesized to arise from haematogenous spread of an infection elsewhere in the body.³ Secondary causes are related to inflammation or infection in anatomically related structures, including the bowel, bone and urinary tract.

The clinical presentation of iliopsoas abscess is insidious and non-specific, and thus may pose a diagnostic challenge for clinicians. The classic clinical triad of fever, pain and limp may not be present and initial misdiagnosis is common. In our case, the nitrites on urine dipstick led to the initial suspicion of a urinary tract infection. This false positive result may be attributed to vaginal contaminants or prolonged dipstick exposure to air. Iliopsoas abscess is an extremely rare cause of sepsis following vaginal delivery with only a handful of cases documented in

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Figure 1 A left iliopsoas abscess extending down into the left groin

the literature.⁴⁻⁶ Obstetricians will be more familiar with postpartum sepsis arising from endometritis, retained products of conception or urinary tract infections. In our case, these differential diagnoses were ruled out by initial clinical presentation and subsequent investigations. A unique feature of this case compared with other reports is the delayed presentation following delivery.

The most common causative organism of an iliopsoas abscess is *Staphylococcus aureus*. This would be consistent with the patient's microscopy result. However, methicillin resistant *S. aureus* should be considered in patients who fail to improve with appropriate antibiotic cover.⁷ The pathogenesis of iliopsoas abscess following vaginal delivery remains unclear. It has been postulated that trauma during delivery may cause a haematoma in the iliopsoas muscle which subsequently may become infected.^{4,8,9} In our case, this would account for the pain preceding the pyrexia and the low haemoglobin on initial presentation.

In many hospitals, ultrasonography may be the initial investigation of choice due to availability, ease of use and cost. This is, however, limited by the sonographer's lack of exposure to iliopsoas abscess as a differential in pelvic sepsis. Even with clinical suspicion, it is diagnostic in only 60% of cases.⁹ In the above case, a second ultrasound was performed unnecessarily

when a CT scan should have been the next investigation of choice. CT is the most accurate investigation for diagnosis of iliopsoas abscess with reported sensitivity of 100% and specificity of 77%.⁸ Both these imaging modalities allow for earlier detection and enable therapeutic drainage to be performed. CT-guided percutaneous drainage is technically similar to open surgical drainage and has been advocated as the drainage method of choice.¹⁰ The long-term morbidity of an untreated iliopsoas abscess includes femoral nerve compression and the abscess tracking into the hip joint leading to a septic arthritis and possible osteomyelitis. The disability from such complications is high. In addition, the mortality rate of treated iliopsoas abscess ranges from 2.4% in primary iliopsoas abscess to 19% in secondary abscess.¹¹ Morbidity and mortality can be reduced with early detection and hence a high degree of clinical suspicion should be maintained in a patient with an unexplained cause of postpartum sepsis.

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