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Rare disease

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Obturator internus pyomyositis presenting as a pararectal abscess

Gillian Duthie,[1] Caroline Corry,[2] Fraser Munro,[1] and James Robb[3]

[1]Royal Hospital for Sick Children, Paediatric Surgery, 9 Sciennes Road, Edinburgh EH9 1LT, UK
[2]Royal Hospital for Sick Children, Radiology Department, 9 Sciennes Road, Edinburgh EH9 1LT, UK
[3]Royal Hospital for Sick Children, Orthopaedics, 9 Sciennes Road, Edinburgh EH9 1LF, UK
Gillian Duthie, gduth01@doctors.org.uk

Abstract

This report describes two children who presented with fever, hip pain and a limp, and were subsequently found to have a primary pyomyositis of the obturator internus muscle. A clinical diagnosis of septic arthritis of the hip was made initially, but in both children MRI showed a pararectal abscess, which required incision and drainage. *Staphylococcus aureus* was cultured from pus from the abscesses and both children made a full recovery subsequently. This report highlights the main features of this unusual entity and emphasises the need for early imaging in the child with an unexplained limp.

BACKGROUND

The child that presents with fever and a limp is a common clinical scenario that accident and emergency department doctors, paediatricians and general practitioners may face. We feel that this case highlights a rare cause, but one that should be considered, of an everyday clinical problem.

CASE PRESENTATION

Case 1

A 9-year-old girl presented to her general practitioner because of a 3-day history of lower abdominal pain. A clinical diagnosis of a urinary tract infection was made and she was started on antibiotics. She was reviewed 2 days later at which point she was pyrexial and complaining of right hip pain. There was no history of trauma and her midstream sample of urine had grown no organisms. She was referred to the Accident and Emergency Department of this hospital because of a possible atypical appendicitis or a psoas abscess. She had a positive Trendelenburg's sign on the right side and an antalgic gait. Abduction and external rotation of her right hip were limited. Her abdomen was soft and non-tender but she was tender along the inferior pubic rami. There were no external signs of erythema or swelling around the right hip but she did have a slightly swollen and erythematous right labia majorum. Inflammatory markers were elevated with a white cell count (WCC) of 16.3×10^9/l and a C-reactive protein (CRP) of 124 mg/l. An *x* ray of her right hip was normal, as was an ultrasound scan of her right hip and lower abdomen. She was started on benzylpenicillin and flucloxacillin for possible musculoskeletal sepsis and MRI showed an abscess of the right obturator internus that communicated with a sizeable pararectal abscess (fig 1).

The patient was taken to theatre and had the pararectal abscess drained via a gluteal incision. Swabs grew *Staphylococcus aureus* and she was treated with intravenous flucloxacillin for 72 h and then oral flucloxacillin for 2 weeks. She made a full recovery from her infection.

Case 2

A 4-year-old boy presented to the Accident and Emergency Department of this hospital because of pain in his right hip pain and a limp of 48 h duration. He was lethargic, had a poor appetite and there was no history of trauma. On examination he was pyrexial and had pain on abduction and external rotation of his right hip. His abdomen was soft and non-tender. Inflammatory markers were raised with a WCC of 11.2×10^9/l, CRP of 71 mg/l and an erythrocyte sedimentation rate of 92 mm/h. An ultrasound of his right hip was performed which was normal. Blood cultures grew *S aureus* and he was started on intravenous flucloxacillin. His symptoms persisted and a subsequent MRI showed large pararectal abscess centred on the right obturator internus, and this was drained via a perianal incision (fig 2).

Swabs grew *S aureus* and he continued on intravenous flucloxacillin for a further 72 h and then oral flucloxacillin for 4 weeks. He made a full recovery from his infection.

DISCUSSION

Pyomyositis is a rare disease most commonly seen in warmer climates where it is recognised as “tropical pyomyositis”. However, recently it has become more frequently reported in temperate climates. It is a subacute, primary muscle infection that usually develops into an abscess. Its aetiology is unclear but trauma and a bacteraemia appear significant factors. Secondary pyomyositis can occur as a result of an intra-abdominal pathology or from pelvic osteomyelitis.[4] It is likely that in the two cases reported here, the infection arose as a result of a bacteraemia as *S aureus* is the commonest organism causing musculoskeletal sepsis in children in the UK.

Pyomyositis usually affects the quadriceps or gluteal muscles with paraspinous and shoulder muscles being affected less commonly.[4,5] However, there are few reports of obturator internus involvement. Obturator internus is attached to the structures around the obturator foramen and its tendon passes through the lesser sciatic foramen and across the capsule of the hip joint inferiorly. The gemelli fuse with its tendon before it inserts on to the medial surface of the greater trochanter. The obturator internus acts as a lateral rotator of the extended thigh and an abductor of the flexed thigh.[1] Its action would explain the limp and pain on external rotation and adduction of the hip seen in both children reported here and this may be a useful clinical sign. The obturator internus fascia forms the inferior fascia of the pelvic diaphragm and is in continuity with the fascia of the external anal sphincter, and this may explain why both children developed pararectal abscesses.

Most patients with obturator internus pyomyositis present with a fever, hip pain, abdominal pain and a limp. Septic arthritis of the hip should always be excluded and pelvic osteomyelits, appendicitis or psoas abscess should also be considered. Hakim *et al*[2] reported two cases of obturator internus pyomyositis in girls, where oedema of the labia majorum on the affected side was noted. This was noted in our first case, a girl. Hakim *et al* postulated that this finding in girls could differentiate obturator internus pyomyositis from septic arthritis.

Children who present with symptoms suggestive of a hip effusion or musculoskeletal sepsis in the region of the hip will inevitably undergo an ultrasound of the affected hip. A negative ultrasound in the presence of signs of sepsis is an indication for MRI. Karmazyn *et al*[3] evaluated at the role of MRI in evaluating non-hip sources of infection in children with acute non-traumatic hip pain. They concluded that MRI was the best imaging modality for these patients, as it is able to detect osteomyelitis, soft tissue infection and abscess formation. Abscess formation and a failure to improve on adequate antibiotic management is an indication for abscess drainage. Previous reports[4,5] have not disclosed the time taken to make the diagnosis but our feeling is that there is often a delay in diagnosing pyomyositis of obturator internus, a deep seated structure, and as a result patients developing an abscess will require drainage.

Conclusion

Obturator internus abscess is a rare cause of a pararectal abscess and should be borne in mind if a child presents with signs of musculoskeletal sepsis but negative imaging of the hip joint.

LEARNING POINTS

- Consider obturator internus pyomyositis in children presenting with musculoskeletal sepsis.
- Negative ultrasound of the hip in a child with fever and a limp should raise the suspicion of obturator internus pyomyositis.
- Early imaging with MRI leads to a definitive diagnosis and allows prompt intervention.

Footnotes

Competing interests: none.

Patient consent: Patient/guardian consent was obtained for publication.

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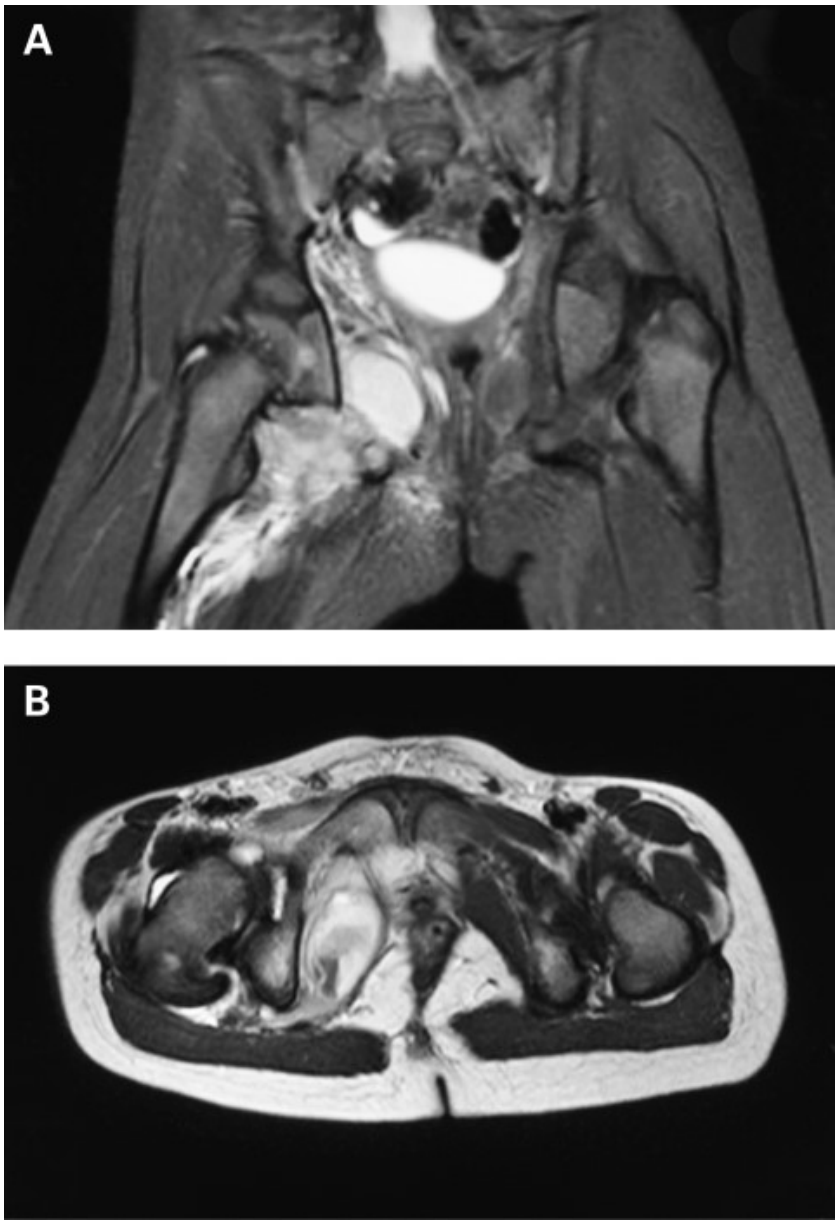
Figures and Tables

Figure 1

Open in a separate window

Axial post contrast PD fat saturation (A) and coronal STIR (B) MRI. The abscess is seen to deviate the rectum to the left. The high signal is consistent with oedema and inflammation involved the proximal adductor muscles on the coronal STIR image.

Figure 2



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T2 coronal (A) and sagittal (B) MRI. Surrounding high signal on T2 and STIR sequences consistent with inflammatory change extend to involve the adductor and gluteal muscle groups. There is no bony involvement.