J R Coll Physicians Edinb 2007; **37:**110–111

Unusual cause of hip pain in a patient with relapsing Henoch-Schonlein nephritis

[1]S Gupta, [2]AJ Grainger, [3]M Wright
[1]Specialist Registrar, [2]Consultant Radiologist, [3]Consultant Renal Physician, Renal Unit, Leeds General Infirmary, Leeds, England

ABSTRACT Hip pain, a common symptom, is rarely caused by pyomyositis. Here we present the case of a 58-year-old male patient with relapsing Henoch-Schonlein nephritis and diabetes, being treated with immunosuppressive agents who developed pain around the hip joint. Diagnosis was suspected after an MRI scan and confirmed when *Staphylococcus aureus* was isolated from aspirated purulent material. Prompt symptomatic improvement was noticed when the immunosuppressive agents were stopped and the patient was started on appropriate antibiotics. Early diagnosis and treatment is needed for prompt symptom resolution and prevention of serious complications.

KEYWORDS Diabetes, Henoch-Schonlein nephritis, immunosupression, pyomyositis, *Staphylococcus aureus*

LIST OF ABBREVIATIONS C-reactive protein (CRP), computerised tomography (CT), glomerular filtration rate (GFR), human immunodeficiency virus (HIV), intravenous (IV), magnetic resonance imaging (MRI), non insulin dependent diabetes mellitus (NIDDM), ultrasound (US)

DECLARATION OF INTERESTS No conflict of interests declared.

Published online ***June 2007***

Correspondence to ***S Gupta, Specialist Registrar, Renal Unit, Leeds General Infirmary, Leeds Teaching Hospitals NHS Trust, Great George Street, Leeds, LS1 3EX***

tel. ***+44 (0)113 2432799 ext. 23481***

fax. ***+44 (0)113 3925087***

e-mail ***sgupta36@hotmail.com***

CASE REPORT

A 58-year-old male suffering from NIDDM treated with insulin, with macro- and microvascular complications, presented to our clinic in December 2004 with a vasculitic rash and renal impairment. Renal biopsy was suggestive of Henoch-Schonlein nephritis with no evidence of diabetic nephropathy. He was initially treated with steroids, which were then tapered. He relapsed for the second time in November 2005, with decreasing GFR (30 ml/min/1·73 m^2 to 23 ml/min/1·73 m^2) and proteinuria, and was started on oral prednisolone and azathioprine. Two weeks later, he was admitted to hospital with a one-week history of left hip pain and swelling, mainly localised around the trochanteric region. There was no history of trauma and no history of any recent injections in this area. His pain was so bad that he could not bear weight. Clinical examination revealed a tender swelling over the lateral aspect of the left hip associated with localized signs of inflammation. Active and passive movements of the joint were restricted by pain.

Blood tests revealed leukocytosis (18·9x10^9 /L) and a raised CRP of 85 mg/L. Creatine kinase was normal. Blood cultures were negative. Initial MRI scan (see figure 1) showed extensive oedematous change in the gluteal muscles. There were several isolated fluid collections within and between the muscles, suggesting infective myositis. Ultrasound-guided aspiration was performed and frank pus drained. *Staphylococcus aureus* was grown on culture. He was treated with intravenous flucloxacillin and fusidic acid. His immunosuppressive regime was substantially reduced. The follow-up MRI scan (see figure 2) two weeks later revealed pus tracking down the left thigh superficial and deep to the iliotibial band. Orthopaedic consult was sought and a conservative approach was deemed to be appropriate. He symptomatically improved and was discharged home after four weeks. He remains well with no symptoms seven months after his diagnosis.

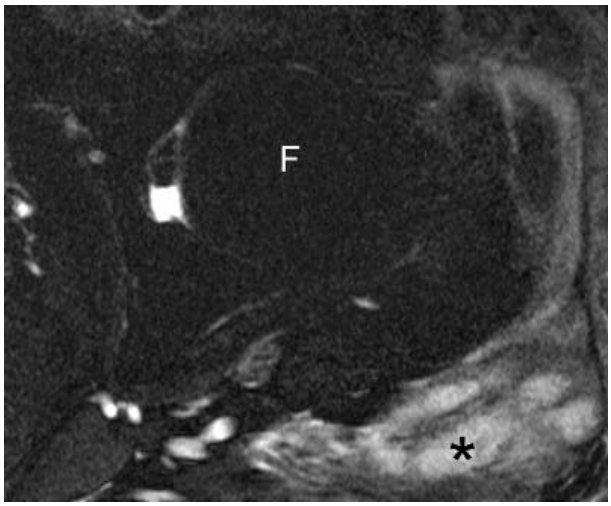

FIGURE 1 Axial T1 image of left hip. Several small collections of fluid are seen in the gluteal muscles(*). F = femoral head

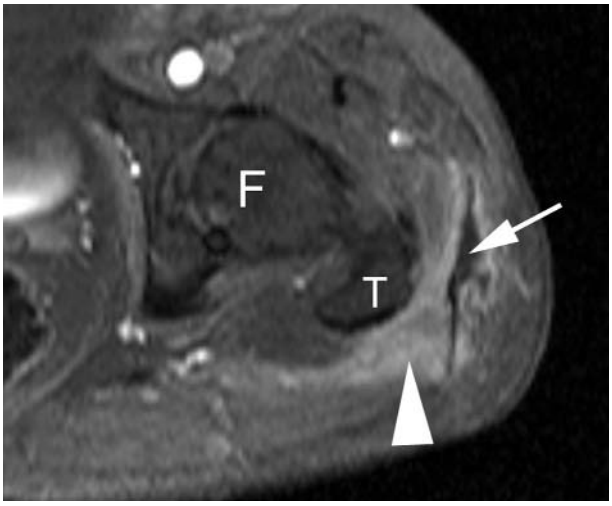

FIGURE 2 Axial T1 image post Gadolinium shows a collection of pus tracking right down the thigh superficial and deep to the iliotibial band. It is seen here at the level of the greater trochanter (T) as low signal (arrow) surrounded by abnormal enhancement. The inflammation is seen extending into the gluteal muscles as further abnormal enhancement (arrow head). F = femoral head.

DISCUSSION

Pyomyositis is a primary bacterial infection of the skeletal muscles and can sometimes present with symptoms similar to that of our patient. Differential diagnosis of the condition includes septic arthritis, local haematoma, soft tissue sarcoma, osteomyelitis and muscle infarction in diabetics. It is often known as tropical myositis as most cases have been reported from patients in tropical areas, however reports from non-tropical areas have increased.[1] Recent data indicate that up to 75% of pyomyositis cases in temperate areas occur in immunocompromised individuals. It is associated with HIV (negative in our case), diabetes, leukaemia, chronic renal failure, asplenia, rheumatoid arthritis, Felty's syndrome and immunosuppressive drugs.[2] *Staphylococcus aureus* is the organism most commonly cultured from the abscess, as was the case in our patient, and is isolated in up to 90% of cases in tropical areas and 75% of cases in temperate countries.[3] Three stages of pyomyositis have been described. In the first (invasive) stage, the muscle becomes increasingly oedematous and painful due to bacterial seeding. The second stage, the suppurative phase, occurs 10 to 21 days later and is characterised by abscess formation. Our patient presented at this stage. The final stage is characterised by septicaemia, metastatic abscesses, multi-organ dysfunction and is associated with a high mortality. Toxic shock syndrome has also been reported.[4] Commonly involved muscles are quadriceps followed by gluteal and iliopsoas muscles. Laboratory investigations reveal leukocytosis with a left shift and raised inflammatory markers. Muscle enzyme levels remain normal despite muscle destruction. Blood cultures are positive in 16% to 38% of patients.[5] Though US and CT scanning have been used to diagnose the condition, MRI scanning remains the most useful diagnostic tool. It is especially useful, as in this case, in the early stages of muscle oedema and abscess formation and to exclude the presence of either bone or joint sepsis. Magnetic resonance imaging findings include diffuse muscle enlargement associated with an increase in signal intensity on T2-weighted images. Detection of an abscess is facilitated by gadolinium enhancement. Initial stages can be effectively treated with IV antibiotics such as flucloxacillin. However, even on IV antibiotics our patient had a slow recovery and a prolonged hospital stay. Additional aminoglycoside agents achieve a synergistic effect; but they are generally reserved for patients who are either in a septic state or immunocompromised. Abscess formation requires appropriate drainage undertaken percutaneously under US or CT guidance. Surgical intervention is required when percutaneous drainage is inadequate or muscle necrosis is extensive.

CONCLUSION

Hip pain is a common complaint, but can be a presenting symptom of an uncommon condition such as pyomyositis. We describe a case of pyomyositis in a 58 year old male patient with relapsing Henoch-Schonlein nephritis and diabetes, who was being treated with immunosuppressive agents. Though the disease is more common in the tropics, patient numbers are increasing in the western countries. Early diagnosis and appropriate antibiotic treatment will prevent need for surgical drainage, which is almost the norm in developing countries where patients present late. If the diagnosis is not suspected, it can be easily missed with catastrophic consequences.

REFERENCES

1 Drosos G. Pyomyositis. A literature review. *Acta Orthop Belg* 2005; **71:**9–16.
2 Hossain A, Reis ED, Soundararajan K, Kerstein MD, Hollier LH. Nontropical pyomyositis; analysis of eight patients in an urban centre. *Am Surg* 2000; **66:**1064–66.
3 Chauhan S, Jain S, Varma S, Chauhan SS. Tropical pyomyositis (myositis tropicans): current perspective. *Postgrad Med J* 2004; **80:**267–70.
4 Crum NF. Bacterial Pyomyositis in the United States. *Am J Med* 2004; **117:**420–28.
5 Bickels J, Ben–Sira L, Kessler A, Wientroub S. Primary Pyomyositis. *J Bone Joint Surg* 2002; **84:**2277–86.