Constitutional syndrome and lumbar pain

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A previously healthy 33-year-old man was referred with a one-month history of moderate pain radiating from the right lumbar region to the right groin. He also complained of anorexia, fatigue and loss of 5 kg of weight.

Physical examination revealed a patient in good general condition. His temperature was 37.2°C, heart rate 100 beats/min and blood pressure 130/60 mmHg. Deep abdominal palpation was slightly painful in the right flank. Pain was increased by extension of the hip on the right side. No heart murmurs were heard and the rest of the examination was unremarkable.

Laboratory data showed the following: erythrocyte sedimentation rate 51 mm/h; haemoglobin 12.4 g/dl; white blood cell count $9.6 \times 10^9/l$ with 62% neutrophils, 26% lymphocytes, 1 basophil, and 5 monocytes; the platelet count, and routine chemical studies in plasma were normal. Cytologic examination of the urine sediment was normal. Blood and urine cultures were all negative. Chest X-ray was unremarkable. An X-ray of the abdomen is shown in figure 1.

Questions

- 1 What is the most probable underlying diagnosis?
- 2 How may it be confirmed?
- 3 What are the options for treatment?

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Figure 1 Abdominal X-ray on admission

Answers

QUESTION 1

In the X-ray film of the abdomen, the shadow of the right psoas muscle is not clearly defined, suggesting pathology at this level. The subacute clinical history of lumbar pain radiating to the right groin with low-grade fever and the radiological findings, are all pointers to the diagnosis of psoas abscess.

QUESTION 2

An abdominal echography displayed a 14 × 4 cm hypoechoic and heterogenous fluid-filled mass in the right psoas. Fine-needle aspiration yielded 150 ml of frank purulent fluid. Gram stain did not show any bacteria but abundant polymorphonuclear cells. Computed tomography (CT) showed a diffusely enlarged psoas-iliac muscle drawn *in situ* without communication to other adjacent structures (figure 2). Within the first 24 h small round colonies began to grow from the purulent fluid which were identified as *Haemophilus aphrophilus*. An echocardiographic study showed no thickening, and the cavities and valves were normal.

QUESTION 3

A drain was placed in the psoas abscess under echographic control and empirical antibiotic therapy with gentamicin (250 mg every 24 h intravenously and cloxacillin (1 g every 6 h) was instituted. The patient became afebrile and asymptomatic by the first day after the drainage was placed and antibiotics started. Follow-up ultrasound showed progressive reduction of the abscess until the 20th day when the catheter was removed because of complete resolution.

Figure 2 CT scan

Discussion

Primary psoas abscess, without a known predisposing factor, is an infrequent clinical entity, usually affecting healthy young people. Pathophysiology is still an enigma but haematogenous spread, similar to that in osteomyelitis, is presumed. The clinical picture is often insidious but can vary from high and persistent fever with tenderness and pain in the flank or inguinal area to a subacute clinical picture with weight loss and low-grade fever. As the classic triad of symptoms (pain in the flank, fever and a limp or flexion deformity of the hip) is often incomplete, a diagnosis can be challenging especially prior to the use of ultrasonography and CT.¹⁻³ *Staphylococcus aureus* is the responsible pathogen in most cases.^{1,2} We have found described in the literature some isolated cases of non-staphylococcal abscess, but none due to *H. aphrophilus* (Medline 1969–95).

H. aphrophilus is a small aerobic Gram-negative coccobacillus that has been isolated in the normal oral flora and in other upper respiratory tract specimens. Human pathology related to it was first described by Khairat in 1940. In the 1970s its clinical relevance was consolidated mainly in endocarditis and brain abscesses with remarkable mortality.^{3,4} It has also been reported to cause sinusitis, otitis media, lung abscess, empyema, meningitis, peritonitis, mediastinitis, cholecystitis, vertebral osteomyelitis, keratitis, arthritis, surgical and traumatic wounds and soft-tissue infections with variable, but in general good, outcome. Infections due to *H. aphrophilus* have occasionally been described in patients with underlying immunodeficiency such as those who received chemotherapy for malignancies.^{3,4} It has also been described in healthy patients with dental manipulation, animal bites, tissue damage or, as in the present case, no identifiable premorbid condition.^{3,4}

In our case the strain of *H. aphrophilus* had a wide antimicrobial susceptibility, as described previously in the literature, to amoxicillin-clavulanate, ampicillin, all cephalosporins, cloxacillin, quinolones, and aminoglycoside, but resistant to vancomycin and bacitracin.⁴ However, the conventional approach in the treatment of intra-abdominal abscesses requires drainage of the purulent collection. The development of refined imaging techni-

Causes of psoas abscess

- appendicitis
- inflammatory bowel disease especially Crohn's disease
- pyogenic osteomyelitis of the spine
- Pott's disease
- bacterial sepsis
- perinephritic abscesses and other urological infections
- chronic haemodialysis or peritoneal dialysis
- trauma with haematoma formation and secondary infection
- suppurative lymphadenitis

Box 1

Summary/learning points

- primary psoas abscess usually affects healthy young people and the clinical picture is often insidious, being a challenging diagnosis
- other agents apart from *Staphylococcus aureus* may cause psoas abscess
- *Haemophilus aphrophilus* is a rare pathogen that can cause a wide spectrum of pathology in man
- echography and CT permit a prompt diagnosis of intra-abdominal abscesses, and safer treatment by percutaneous drainage

Box 2

ques such as ultrasonography and CT in recent years, has permitted important advances in the diagnosis and the treatment of psoas abscesses. Even though potential complications related to percutaneous drainage such as septicaemia, haemorrhage, peritoneal spillage, or fistula formation have been rarely described, it is currently the treatment of choice because it carries less mortality and morbidity than open surgery.⁵

Final diagnosis

Primary psoas abscess due to *Haemophilus aphrophilus*.

Keywords: psoas abscess, *Haemophilus aphrophilus*

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More than an ankle sprain

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A 27-year-old woman was seen in the Accident & Emergency department with a vague history of pain in the left ankle. The patient thought that she may have sustained a minor injury in the swimming bath on the day before presentation but unfortunately the mechanism of injury was not recorded. She was seen by the casualty officer who felt that there was no evidence of a fracture on the X-ray, diagnosed a simple sprain and treated the patient with a tubigrip bandage. Following review of the X-rays (figure) the patient was recalled to the Accident & Emergency review clinic. It transpired that the patient had Down's syndrome and was under treatment for an atrioventricular canal defect with irreversible pulmonary hypertension.

Questions

- 1 What condition do the X-rays show?
- 2 What are the principal causes?

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Figure X-Rays of left ankle