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Anterior synovial rupture of ankle joint presenting as deep venous thrombosis

Posterior synovial rupture of the knee joint with resultant oedema and swelling in the calf closely resembles deep venous thrombosis.¹ This occurs most commonly in patients with rheumatoid arthritis but occasionally in other forms of arthritis.^{1,2} We report a case of monoarthritis of the ankle joint presenting with acute swelling of the ankle and calf due to anterior synovial rupture mimicking deep venous thrombosis.

Case report

A 27-year-old woman presented to the casualty department with a three-day history of painful swelling of the left ankle and calf. Deep crural venous thrombosis was diagnosed, but closer questioning disclosed a three-month history of intermittent painful swelling of the ankle after minor trauma. Three days before admission the ankle had become hot, painful, and swollen but she had continued to walk, though with difficulty, and the swelling and pain had spread to the whole leg below the knee. Examination confirmed swelling of the calf and ankle but with maximum tenderness around the ankle joint, which was warm. Minimal calf tenderness was noted, and there was pain in the calf on dorsiflexion of the foot (Homans's sign). No other abnormalities were found apart from mild genu recurvatum.

After a period of bed rest the calf swelling had diminished considerably and a fluctuant cystic swelling 5 cm in diameter could be palpated above and anterior to the ankle joint; from this 20 ml of straw-coloured fluid was aspirated, which contained 12×10^9 cells/l ($12\,000/\text{mm}^3$), mainly neutrophils, but no crystals. Culture was negative. Synovigraphy of the ankle joint showed a communication between the joint and the swelling but not into the calf, with only minor leakage of contrast material (figure). We considered that the calf swelling and pain were secondary to the release of some irritant synovial fluid into the tissues of the leg consequent to joint rupture, the rest of this fluid forming the cystic swelling. No localised swelling had been previously noticed by the patient. Phlebography was not considered necessary in view of the rapid clinical improvement.

Other investigations showed haemoglobin 12.1 g/dl; white cell count $7 \times 10^9/\text{l}$ ($7000/\text{mm}^3$); plasma viscosity 1.70 cp; and urate concentration 0.31 mmol/l (5.2 mg/100 ml) (normal 0.09–0.36 mmol/l; 1.5–6.0 mg/100 ml). An RA latex test was negative and antinuclear antibodies absent. An x-ray film of the ankle showed a short segment of periosteal reaction at the medial aspect of the lower tibia; sacroiliac joints were normal. HLA antigens A1 and 32 and B8 and 15 were present.

Comment

Synovial rupture in inflammatory arthritis causes the release of irritant synovial contents resulting in pain and swelling.¹ When the knee joint is affected the resulting clinical picture closely resembles



Synovigram of left ankle joint showing immediate communication with synovial cyst.

that of deep venous thrombosis and is not uncommon in patients with early rheumatoid arthritis.¹ Other joints may also rupture, including the wrist, elbow, shoulder, and hip, but rupture of the ankle joint is rare.³ Baker first reported a case of a large synovial cyst anterior to the ankle joint causing swelling in 1885.⁴ Synovigraphy of the ankle joint in rheumatoid arthritis has shown synovial outpouches and connections with tendon sheaths but no large anterior cysts or rupture.⁵

Studies of pressure in the knee joint show that enormous rises occur during normal use when an effusion is present,¹ which are highest in patients with rheumatoid arthritis. High pressures might be expected in other weight-bearing joints such as the ankle, and it is surprising that rupture is so rare.

We are unaware of any report of synovial rupture of the ankle joint causing the degree of pain and swelling seen in this case and also of such rupture occurring so early in a monoarthritis. Anterior synovial rupture of the ankle joint must be considered in the differential diagnosis of deep venous thrombosis.

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Aneurysm after arterial puncture in Behçet's disease

Behçet's disease may be complicated by aneurysms of both central^{1,2} and peripheral arteries.³ We report a case in which arterial puncture apparently predisposed to aneurysm.

Case history

A 24-year-old Saudi Arabian soldier had suffered for eight years from recurrent episodes of oral, inguinal, and scrotal ulcers; non-deforming