LEARN OF THE MONTH

Subcutaneous nodules in a patient with polyarthritis

C H Le, J P Dowling, K D Muirden

Case report
A 56 year old white male presented in May 1993 with a 12 month history of pain and stiffness affecting proximal interphalangeal and metacarpophalangeal joints of both hands, wrists and knees, and all metatarsophalangeal joints. This was associated with difficulties in performing activities of daily living.

Examination showed a well looking man who had synovitis of his knees. He had multiple soft tissue nodules at both elbows. The rest of the examination, including urine microscopy, was normal.

His rheumatoid factor was positive (titre not measured), though radiography of his hands, feet, and knees did not show any erosions. A diagnosis of seropositive rheumatoid arthritis was made, though his symptoms were out of proportion with his signs. He was treated with a non-steroidal anti-inflammatory drug, sulphasalazine 3 g per day, and prednisolone 5 mg per day.

In January 1994, he presented again, with a one month history of painful fingertips associated with lethargy and night sweats. There were no joint symptoms. He also reported three months of mild nasal stuffiness.

Examination showed areas of pulp infarction affecting the left index and the right middle fingers. His hands and feet were cold, and peripheral pulses were intact. There was no active synovitis. Nodules at both elbows were still present. Ear, nose, and throat examination showed nasal crusting and areas of perforation along the nasal septum.

Mid stream urine analysis showed 150 000 glomerular red blood cells/ml (normal value \( <13 000/\text{ml} \)). There was proteinuria of 1.45 g/day (\( <0.15 \text{ g/day} \)). Full blood count showed haemoglobin 131 g/l (NV 130–180 g/l), total leucocyte count 11.1 \( \times \) 10\(^9\)/l (NV 4–11 \( \times \) 10\(^9\)/l), neutrophil count 8.32 \( \times \) 10\(^9\)/l (NV 2.5–7.5 \( \times \) 10\(^9\)/l), platelet count 400 \( \times \) 10\(^9\)/l (NV 150–400 \( \times \) 10\(^9\)/l). The erythrocyte sedimentation rate was 37 mm/1st h (NV 0–15 mm/1st h). Urea, creatinine, electrolytes, liver function tests, complement, immunoglobulin and cryoglobulin values were normal. Antinuclear antibody titre was weakly positive, with a speckled pattern; extractable nuclear antigens were negative. Rheumatoid factor was now negative. Antineutrophil cytoplasmic antibody titre was increased to 1:160, with cytoplasmic staining (\( \text{cANCA} \)). Hepatitis B and C serology was negative.

Kidney biopsy specimens showed focal segmental necroting glomerulonephritis (figure). Nasal mucosa biopsy specimens showed areas of necrosis including erosion of cartilage and extensive fibroblastic repair with residual chronic inflammatory cells including many plasma cells. Biopsy of one elbow nodule showed granulomas with a necrotic centre surrounded by palisading histiocytes with some degree of fibroblastic fibroplasia externally, and some chronic inflammatory cell infiltrate.

The patient was treated with oral cyclophosphamide 100 mg/day, prednisolone 60 mg/day, persantin, nifedipine, and captopril. At four month follow up, his fingers had completely healed, his haematuria had resolved, and his 24 hour urinary protein had been reduced to 0.55 g/day. He was slightly cushingoid and was mildly hypertensive (160/90 mm Hg), but there were no other major iatrogenic complications. He remained well at 12 month follow up.

Discussion
We have reported a case of Wegener's granulomatosis (WG) with an unusual presentation. The finding of polyarthritis, subcutaneous nodules and positive rheumatoid factor led initially to the mistaken diagnosis of seropositive nodular rheumatoid arthritis (RA). However, there are other causes of subcutaneous nodules in a patient with

A necrotising segmental lesion in one of two glomeruli. Silver methenamine-masson trichrome. Horizontal bar represents 200 \( \mu \text{m} \).
Cutaneous lesions occur in 40–50% of patients with Wegener’s granulomatosis,8 though subcutaneous nodules are uncommon: of 118 patients with WG reviewed, none had subcutaneous nodules.9 Amongst 73 patients with cutaneous lesions from 158 studied,1 some had subcutaneous nodules, but the exact number was not given. Histologically, these may show granulomas with well defined palisading cells indistinguishable from the classic rheumatoid nodule, as was seen in our patient.

Whilst rheumatic complaints may often be the presenting symptoms in WG, subcutaneous nodules are seen infrequently. They can be histologically indistinguishable from the classic rheumatoid nodule and, when associated with joint symptoms, may lead to a misdiagnosis of rheumatoid arthritis.

The lesson
- Not all subcutaneous nodules are rheumatoid nodules.
- Not all ‘rheumatoid’ nodules are associated with rheumatoid arthritis.
- Renal involvement (not in association with drug therapy) should lead to consideration of diagnoses other than RA.

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