

## Case report

# Osteomyelitis presenting as a swollen elbow in a patient with the acquired immune deficiency syndrome

B T GOH,<sup>1</sup> A S M JAWAD,<sup>2</sup> D CHAPMAN,<sup>1</sup> S J WINCESLAUS,<sup>1</sup>  
G E FORSTER,<sup>1</sup> AND J D PERRY<sup>2</sup>

From the <sup>1</sup>Whitechapel Clinic and the <sup>2</sup>Department of Rheumatology, The London Hospital, London

**SUMMARY** A patient suffering from the acquired immune deficiency syndrome (AIDS), who developed swelling of the left elbow four weeks after *Staphylococcus aureus* septicaemia is reported. The cause was osteomyelitis of the olecranon process.

## Case report

A 24 year old bisexual man was seen in March 1986 with oral and oesophageal candidiasis, seborrhoeic dermatitis, and recurrent ecthyma of the trunk, arms, and legs. He was known to be positive for human immunodeficiency virus (HIV) antibody. The ecthyma was controlled with topical antibacterial ointment and cream. In June 1986 he was treated with a week's course of flucloxacillin for severe relapse of the ecthyma and with high dose co-trimoxazole for 21 days for *Pneumocystis carinii* pneumonia. Atypical mycobacterium was also isolated from the sputum.

In October 1986 he complained of diarrhoea, abdominal pain, and distension. Stool culture and toxin assay for *Clostridium difficile* were positive. Rectal biopsy, performed at sigmoidoscopy, showed histological evidence of cytomegalovirus and atypical mycobacterium. He was treated with vancomycin and 9-(1,3-dihydroxy-2-propoxymethyl)guanine (ganciclovir; Syntax Research) for *C difficile* and cytomegaloviral infections respectively. He also developed ecthymatous skin lesions. As he was febrile (38.7°C) and unwell, blood cultures were performed which grew *S aureus*. The septicaemia was treated with intravenous flucloxacillin 1 g six hourly for 15 days with good clinical and microbiological response. Maintenance treatment with



Fig. 1 An x ray of the left elbow showing radiolucency of the olecranon process.

Accepted for publication 6 February 1988.

Correspondence to Dr B T Goh, Whitechapel Clinic, The London Hospital, London E1 1BB



Fig. 2 An x ray of the same elbow eight days later.

ganciclovir was discontinued in November 1986 because of a fall in the white cell count ( $2.29 \times 10^9/l$ ).

Two weeks after stopping the flucloxacillin he accidentally knocked his left elbow. Nine days later he became pyrexial ( $39^\circ\text{C}$ ) with a swollen, tender, inflamed left elbow. Tenderness was maximal over the olecranon, suggesting osteomyelitis. Aspiration of the joint effusion showed a predominantly lymphocytic fluid. Direct examination and culture of the fluid failed to show any bacteria as did the blood cultures. Radiography of the left elbow showed marked radiolucency in the olecranon process with rapid progression over an eight day period since injury (Figs 1 and 2). A diagnosis of osteomyelitis was made, and treatment with flucloxacillin and fucidic acid was instituted with prompt response, in keeping with staphylococcal infection, such that surgical drainage was not felt justified. It was concluded that the initial course of antistaphylococcal treatment for septicaemia had been in-

adequate, though follow up blood cultures were sterile, and a longer course combined with fucidic acid was now advised.

### Discussion

Joint involvement in patients suffering from AIDS is uncommon. Co-occurrence of Reiter's disease and HIV infection has been reported,<sup>1</sup> and HIV had been isolated from the joint fluid.<sup>2</sup> Reactive arthritis may be associated with *C difficile* colitis,<sup>3</sup> and in our patient stool culture and toxin assay for *C difficile* were positive three weeks before the onset of the swelling of his elbow. There were no other features to suggest co-occurrence of reactive arthritis and osteomyelitis. The response to antistaphylococcal treatment supports the diagnosis of osteomyelitis with a 'sympathetic' effusion, possibly precipitated by trauma.

It has been shown that patients with AIDS can have B cell in addition to T cell immune deficiency,<sup>4,5</sup> which predisposes them to both opportunistic and bacterial infections.<sup>6</sup> The recurrent *S aureus* infection with septicaemia and osteomyelitis in our patient is another widening manifestation of HIV infection. The leucopenia resulting from treatment with ganciclovir may be an additional factor in predisposing him to the severe infection. The rapidity of the severe bony destructive change shown by x ray examination over eight days is unusual and in keeping with his immunocompromised status. Osteomyelitis if close to the joint may initially present as a joint effusion. This should be considered in the differential diagnosis of a 'swollen joint' in patients with AIDS.

### References

- 1 Winchester R, Bernstein D H, Fischer H D, Enlow R, Solomon G. The co-occurrence of Reiter's syndrome and acquired immunodeficiency. *Ann Intern Med* 1987; **106**: 19-26.
- 2 Withrington R H, Cornes P, Harris J R W, et al. Isolation of human immunodeficiency virus from synovial fluid of a patient with reactive arthritis. *Br Med J* 1987; **294**: 484.
- 3 Bolton R P, Wood G M, Losowsky M S. Acute arthritis associated with *Clostridium difficile* colitis. *Br Med J* 1981; **283**: 1023-4.
- 4 Lane H C, Masur H, Edgar L C, Whalen G, Rook A H, Fauci A S. Abnormalities of B-cell activation and immunoregulation in patients with the acquired immunodeficiency syndrome. *N Engl J Med* 1983; **309**: 453-8.
- 5 Ammann A J, Schiffman G, Abrams D, Volberding P, Ziegler J, Conant M. B-cell immunodeficiency in acquired immune deficiency syndrome. *JAMA* 1984; **251**: 1447-9.
- 6 Witt D J, Craven D E, McCabe W R. Bacterial infections in adult patients with the acquired immune deficiency syndrome (AIDS) and AIDS-related complex. *Am J Med* 1987; **82**: 900-6.