We present a case of Mycobacterium avium-intracellulare (MAI) infection of the ankle joint in a patient with HIV infection. The patient presented with a painful, destructive arthropathy of the ankle. Initial microbiological studies were negative but infection with MAI was later identified from biopsies taken during hindfoot fusion. Antibiotic triple therapy was given and the patient remains pain-free without evidence of active infection. To our knowledge, this is the first case of MAI infection of the ankle joint reported in the literature. A high index of suspicion of (atypical) Mycobacterial infection should be maintained in patients with HIV infection presenting with an indolent but destructive arthropathy of the ankle joint.

Infection with HIV and AIDS is associated with both seronegative arthritis and atypical bone and joint infections.\(^1\)\(^-\)\(^6\) Atypical Mycobacterium infections of bones and joints are rare,\(^7\) but have been reported in immunocompromised patients. Patients with HIV and AIDS have a predilection for Mycobacterium avium-intracellulare (MAI) infections, which are usually generalised and seldom involve bones or joints.\(^7\) We present a case of MAI infection of the ankle joint in a patient with HIV disease. To our knowledge, this is the first case reported in the literature.

Case report

A 39-year-old male with HIV infection was referred with a diagnosis of a seronegative rheumatoid mono-arthropathy of the right ankle. He gave a three-year history of pain in the right hindfoot, which had gradually become more severe and he could no longer bear weight or wear a shoe on the affected foot. He had pain at rest despite taking non-steroidal anti-inflammatory (NSAID) medication. His HIV activity increased, he complained of discomfort due to it. A thorough débridement was performed and sequestra lying within the space normally occupied by it. A thorough débridement was performed and samples of bone and soft tissue sent for culture and histological examination. The distal tibia and calcaneum appeared healthy. The medial malleolus was avascular and presented in the wound with no evidence of recurrent infection and union seemed to be achieved. One year after surgery, as his level of activity increased, he complained of discomfort due to prominence of the nail on the plantar aspect of the foot. The nail was therefore advanced proximally under a general anaesthetic, with replacement of one proximal locking screw (Fig. 3). The fusion

The differential diagnosis included an inflammatory or infective process, tumour or a Charcot's joint. Urgent ankle arthroscopy was performed revealing extensive synovitis and joint destruction without pus or free fluid. Synovial biopsies showed inflammation but no evidence of infection and no organisms were found. A decision was made to perform an open exploration of the ankle joint with a hindfoot fusion using an intramedullary nail. A transfibular approach to the ankle was used revealing an abundant, inflammatory reaction. The talus was avascular and presented in the wound with a plantar calcaneal incision and statically locked under fluoroscopic control (Fig. 2). Post-operatively he was allowed to touch weight-bear in an air-cast boot. All wounds healed without complication and the pain settled rapidly. The histological appearance was that of a granuloma, and although no acid-fast bacilli were seen on microscopy, Mycobacterium avium-intracellulare was cultured. Antibiotic triple therapy was started, with Ethambutol, Azithromycin and Rifabutin.

The ankle was splinted in the air-cast boot for four months. Clinically and radiologically, there was no evidence of recurrent infection and union seemed to be achieved. One year after surgery, as his level of activity increased, he complained of discomfort due to prominence of the nail on the plantar aspect of the foot. The nail was therefore advanced proximally under a general anaesthetic, with replacement of one proximal locking screw (Fig. 3). The fusion

\[\text{CASE REPORTS}\]

**AIDS-related ankle arthropathy: mycobacterium avium-intracellularure infection**
Fig. 1
Pre-operative radiographs of the right ankle. Anteroposterior (AP) and lateral views show extensive destruction of the ankle and subtalar joints and sclerosis of the talus.

Fig. 2
Post-operative radiographs. AP and lateral views show an intramedullary nail in situ.
was found to be solid. Antibiotic triple therapy was continued for 18 months. He returned to work and remains free of pain and requires no orthotics.

Discussion
The susceptibility of patients with AIDS to atypical Mycobacterial infections is well known. However, MAI infections are usually generalised and seldom involve bones or joints. Mycobacterium kansasii joint infections have been reported, but tend to involve the joints of the upper limb. Mycobacterium haemophilum may cause tenosynovitis or infect the ankle joint. Bone and joint infections with an indolent course in such patients should raise suspicion of a Mycobacterial infection, particularly when routine cultures fail to isolate an organism but histology reveals the presence of a granuloma. The synovial fluid resembles that seen in tuberculous arthritis, with cell counts ranging from 2900 to 132,000 leucocytes and polymorphonuclear cells ranging from 12% to 90%. The sugar content is generally reduced. The diagnosis is made by histology and microbiology.7

More commonly, patients with HIV infection suffer sterile, inflammatory arthropathies such as Reiter’s syndrome, psoriatic arthritis, and unclassified arthritic disorders with enthesopathies. Seronegative arthropathies, in these patients, frequently involve the foot and ankle and may occasionally follow a fulminant course resulting in severe limitation of movement. Radiographic changes mimic those seen in psoriatic arthropathy. Patients frequently respond well to NSAID medication, although a few remain refractory to pharmacological treatment. Treatment with immunosuppressive agents may result in the development of Kaposi’s sarcoma, fulminant AIDS, or an opportunistic infection. Patients with HIV infection may also develop a peripheral neuropathy raising the possibility of Charcot’s arthropathy.8-11 This case shows that we should be aware of possible (atypical) Mycobacterial infection when presented with a destructive arthropathy in a patient with HIV infection.

No benefits in any form have been received or will be received from a commercial party related directly or indirectly to the subject of this article.

References