Highly active antiretroviral therapy (HAART) is responsible for a striking reduction in AIDS related morbidity and mortality by partly restoring immune function. However, HAART can also precipitate the development of clinically apparent opportunistic infections in patients with latent infections. We report a case of an HIV infected patient who developed granulomatous nodular and cavitatory lesions of the lungs due to Mycobacterium xenopi as a manifestation of the immune restoration syndrome.

**CASE REPORT**

*Mycobacterium xenopi* pulmonary infection in an HIV infected patient under highly active antiretroviral treatment*

C Bachmeyer, L Blum, S Stelianides, B Benchaa, N Gruat, O Danne

Highly active antiretroviral therapy (HAART) is responsible for a striking reduction in AIDS related morbidity and mortality by partly restoring immune function. Improvement and resolution of opportunistic infections has been most commonly observed. Unfortunately, HAART can also precipitate the development of clinically apparent opportunistic infections in patients with latent infections within the first weeks of treatment.

We report a *Mycobacterium xenopi* pulmonary infection presenting with granulomatous nodular and cavitatory lesions as a complication of the immune restoration syndrome.

**DISCUSSION**

The development of opportunistic infections during the first 2 months of HAART has recently been described, including cytomegalovirus, Cryptococcus neoformans, and *Mycobacterium avium intracellulare*. Indeed, clinically silent infections may become apparent as a result of restoration of specific immune activity against microbial pathogens. This results from intensified inflammatory responses caused by the sudden increase in lymphocytes specifically reacting, for example, against mycobacterial antigens in mycobacterial infections.

We present a case of *M xenopi* pulmonary infection as a complication of the immune restoration syndrome. To the best of our knowledge only one similar case has been reported, who presented with nodular lung lesions and left sided pleurisy. *Mycobacterium xenopi* is a scotochromogenic, acid fast, slow growing, non-tuberculous bacillus, growing optimally at 42°C. It is usually considered as a commensal, saprophyte, and environmental contaminant. Its pathogenicity is relatively low and infection requires impairment of host immunity. Infection usually occurs in the lungs in patients with chronic obstructive pulmonary disease, chronic alcoholism, diabetes mellitus, and malignancies. Radiographically it presents with multinodular densities and cavitations. Granuloma formation is typical of such an infection when available. No treatment guidelines exist for pulmonary *M xenopi* infection, but a combination of three or four drugs might

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include streptomycin, ethionamide, and ethambutol or rifampicin continued for 18–24 months seems reasonable. In vitro drug susceptibility and response to chemotherapy are unpredictable. In a few cases surgical resection resulted in cure when antibiotics were ineffective. Of note, diagnosis of uncommon—that is, other than *M avium* complex and *M kansasii*—non-tuberculous mycobacterial disease in HIV negative patients relies on the criteria of the American Thoracic Society: (a) either repeated isolation from a non-sterile site or a single isolation of *M xenopi* from a normally sterile localisation and (b) either the presence of one or more symptoms indicative of pulmonary disease or an abnormal chest radiograph, in the absence of other pathogens or illnesses.

*Mycobacterium xenopi* has been reported as being responsible for pulmonary and extrapulmonary infections in HIV infected patients. Fever and cough are common symptoms in these patients, and fever is significantly more frequent in patients with AIDS than in non-AIDS patients. Radiographic findings include interstitial and mixed disease, rarely a reticulonodular pattern and cavitary disease, but adenopathy is unusual. Most patients have advanced HIV infection with a CD4 cell count of <100/mm³. Differential diagnosis includes *Pneumocystis carinii* pneumonia, other mycobacterial infections, and sarcoidosis which has also recently been described as the result of the immune restoration syndrome.

In our patient the diagnosis of *M xenopi* pulmonary infection was likely on clinical, radiological, and histological findings, despite only one specimen of sputum being positive for the organism. However, we consider that this result should not be attributed to environmental contamination.

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