Mycobacterium avium-intracellulare in stool in HIV-seropositive man

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Mycobacterium tuberculosis is the predominant acid-fast bacillus causing diarrhea in HIV-seropositive patients in India. We report a 27-year-old HIV-seropositive man with diarrhea in whom M. avium-intracellulare was isolated on stool culture. [Indian J Gastroenterol/2003;22:25]

Key words: AIDS, diarrhea, human immunodeficiency virus

Mycobacterial infection such as tuberculosis is being increasingly recognized in patients with AIDS. Infection by several nontuberculous mycobacteria including M. avium-intracellulare (MAI), M. fortuitum and M. chelonae has also been reported in these patients.

A 27-year-old HIV-seropositive man presented with diarrhea, vomiting and weight loss for three weeks. He also complained of itching all over the body and swelling of hands and feet two weeks before. Six months earlier, he had fever, dry cough and multiple lymph nodes in the neck and groin; he was diagnosed as having tubercular lymphadenopathy and had received four-drug antitubercular treatment (ATT). He had also received ciprofloxacin and trimethoprim for the diarrhea with partial response. The patient was diagnosed as HIV seropositive four years earlier, but antiretroviral therapy was not started.

On examination, he was emaciated and pale, and had generalized icthyosis and seborrheic dermatitis. He had firm, nontender hepatomegaly. On respiratory examination, few crepitations were noted in the right intrascapular area. Cardiovascular and central nervous system examination was normal.

Investigations: hemoglobin 9.4 g/dL, total white blood cell count 6600/mm³ (50% neutrophils, 35% lymphocytes), with normal platelet count. Serum biochemistry was normal, except for mildly elevated transaminases. His CD4⁺ lymphocyte count was 100/μL. Markers for hepatitis B and C and cytomegalovirus were negative. Serum amyloid was 100 μL. Echogram showed wedge-shaped opacity in the left lower zone of the lungs. Ultrasonography showed splenomegaly and hepatomegaly. CT revealed cavity lesion in the left lower lobe of lungs with multiple focal hypodense lesions in the spleen and multiple retroperitoneal and periaortic nodes. Microscopy of sputum showed no acid-fast bacilli, but lymph node biopsy showed caseating granulomatous lesions with acid-fast bacilli. Five-drug ATT was started. Sputum examination for Pneumocystis carinii was negative. Blood cultures were negative.

On examination of several fecal specimens no bacterial pathogens or parasite could be isolated. On modified Ziehl-Neelsen staining no intestinal coccal pathogens were seen, but acid-fast bacilli were seen. Fecal sample was subsequently cultured for mycobacteria. Thin, translucent, cream-colored colonies were seen, which were confirmed to be MAI complex. Drug susceptibility test could not be done. The patient improved with antitubercular and antiretroviral therapy.

M. avium-intracellulare complex is a group of slowly growing mycobacteria that cause cervical lymphadenitis and chronic necrotizing pneumonia in HIV non-infected patients and disseminated disease in AIDS. Disease almost exclusively occurs in those with CD4 counts less than 100/mL. This agent has also been encountered as a cause of diarrhea in patients with AIDS.¹

MAI is most commonly isolated from blood, bone marrow, liver biopsy tissue, urine and sputum. Isolation from feces indicates disseminated infection. In an autopsy study from India, 7 of 49 cases with AIDS had M. tuberculosis in the intestine; none had MAI complex.²

In another Indian report, M. tuberculosis was isolated from feces in a patient with AIDS and mycobacteremia.³

The recovery of MAI from intestinal specimens may reflect mycobacterial multiplication in the intestine as a consequence of direct inoculation, or pulmonary MAI infection with shedding into the intestinal tract. Alternatively, intestinal localization may ensue from hematogenous dissemination from an extra-intestinal site.

Comparison of fecal and blood cultures for diagnosis is not often possible because of non-availability of matched specimens. However, in over 80% of cases, fecal specimens are the first to yield MAI on culture. Moreover, the sensitivity of fecal culture is twice that of direct microscopic examination. Thus, routine use of both direct microscopy and culture is necessary for early diagnosis of infection.⁴ However, there is still controversy over the practice of routine stool culture for isolation of mycobacteria.⁵

References


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