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HIV Infected Young Man with Prolonged Fever and Cough

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WHAT IS YOUR DIAGNOSIS?

A 29-year-old single man presented with 2 months history of fever and chills accompanied by intermittent productive cough and abdominal pain. He was an intravenous drug abuser and a heavy smoker. He had spent 3 months in jail. His HIV and HCV serology tests had been reported positive since 4 years earlier. He gave no history of contact with a tuberculosis patient and did not mention further medical problems. His chest x-ray was normal and he had a CD4 count of 45 one month ago. He was not on any medication or prophylaxis. On clinical examination, the patient was febrile. All physical findings were normal except for fever and hepatosplenomegaly. Laboratory studies revealed a microcytic anemia (Hgb: 6.2) and elevated erythrocyte sedimentation rate (1st hour: 120), highly elevated alkaline phosphatase and absolute CD4 count of 23. PPD and sputum smear were negative for Mycobacterium tuberculosis (MTB). Trans-thoracic and trans-esophageal echocardiographies were both normal. Chest x-ray (Figure 1), spiral CT scan of the lungs (Figure 2), abdominal, brain and rhinosinusal CT scans, bone marrow aspiration and biopsy as well as liver biopsy were all performed for the patient. ***(Tanaffos 2009; 8(4): 65-67)***

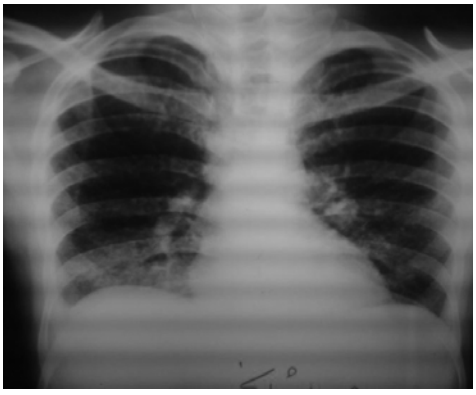

Figure 1. CXR of the patient.

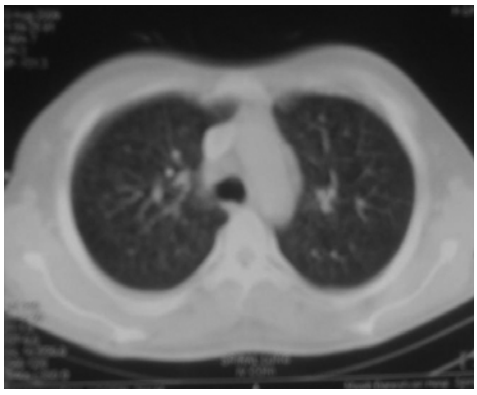

Figure 2. Spiral CT-scan of the patient.

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Diagnosis: Disseminated tuberculosis

Chest x-ray (Figure 1) and spiral CT-scan (Figure 2) of the lungs demonstrated multiple bilateral micro-nodules and right sided pleural effusion accompanied by hilar and mediastinal lymphadenopathy. Abdominal CT scan showed hepatosplenomegaly and para-aortic adenopathies. Brain CT scan and rhinosinusal CT were normal. The second and third smears and PCR of the sputum for MTB complex turned positive for acid fast bacteria (AFB).

Blood PCR was negative for MTB. Histopathological examination of the bone marrow and liver (Figures 3 and 4) revealed granulomatous lesions with necrosis which in bone marrow sample acid fast bacilli seen.

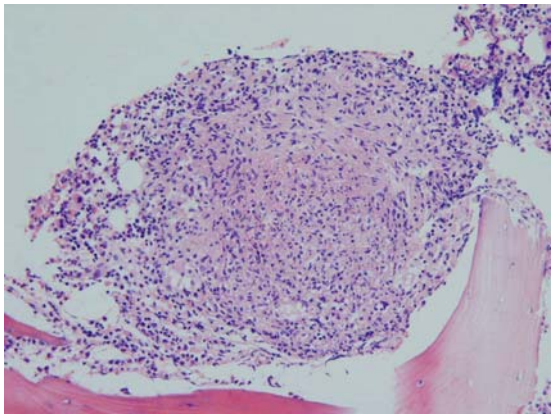

Figure 3. Bone marrow biopsy: Chronic granulomatous inflammation (H&E, LP)

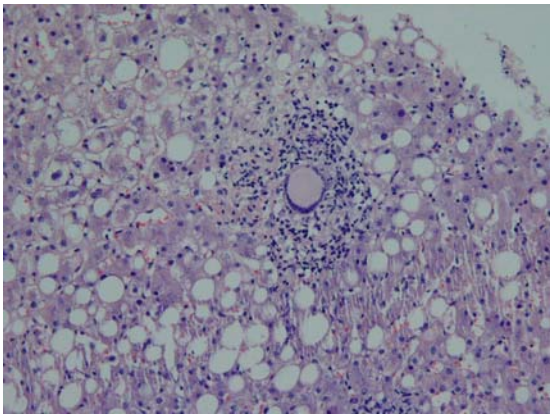

Figure 4. Liver biopsy: well formed granuloma, composed of epithelioid histiocytes, multinucleated giant cell and rim of small lymphosytes(H&E, HP)

According to the constellation of CT scan findings, positive sputum smear and PCR for MTB complex and liver and bone marrow results, a diagnosis of disseminated tuberculosis infection was confirmed.

DISCUSSION

Incidence of HIV infection is increasing among the Iranian population. On the other hand, prevalence of MTB infection especially in HIV patients is on the rise every single day. As MTB is known to be an opportunistic infection, immune compromised, particularly HIV infected patients are at increased risk of MTB infection (1,2) and more significant clinical manifestations in such patients are associated with more progressive HIV infections (3). The stronger the patient's immune system, the better would be the clinical outcome of tuberculosis. Adversely, many TB patients are unaware of being HIV positive. Although our case was known to be HIV positive with low CD4 count, his disease was not under control and he had not received any medications or prophylaxis, leading to a serious disseminated TB infection. Upon admission, we suspected atypical mycobacteria due to the prominence of extra pulmonary manifestations and relatively high prevalence of these infections in advanced HIV patients (4). However, the results of the sputum smear, PCR, tissue biopsies and CT scan findings were in favor of mycobacterium tuberculosis infection. We should accept the fact that the prognosis of this patient is very poor, due to the disseminated infection involving lungs, liver, spleen and bone marrow (resulting in severe anemia). In conclusion, initiation of appropriate anti-tuberculosis therapy followed by anti-retroviral treatment should be considered in low CD4 count HIV patients, as

soon as possible (5,6). Accordingly, a regimen of isoniazid, ethambutol, pyrazinamide and rifabutin accompanied by efavirenz, lamivudine, zidovudine and co-trimoxazole (prophylactic dose) was started for the patient. After two months of treatment, the patient is doing well and is supposed to complete six months of anti-TB medication and lifelong antiretroviral therapy (ART).

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