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The coughing patient: TB or not TB; that is the question

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To the editor:

Tuberculosis (TB) has been declared a global emergency, increasing approximately 1% each year. There are evidences that TB is being underdiagnosed worldwide^{1,2}. One of the reasons is the failure of healthcare workers to consider TB in the differential diagnosis of patients with respiratory symptoms.

Delay in the diagnosis of TB in HIV-infected people is an important contributor to the excess morbidity and mortality^{2,3}.

The main purpose of this prospective study was to define clinical and epidemiological characteristics that can guide physician to the rapid diagnosis of pulmonary TB in HIV patients.

During 18 month (10/2004 to 04/2006), all patients attending for unscheduled visits to an Infectious Diseases Division of a public Hospital in Argentina, were asked if they present cough among their symptoms and if so they were invited to participate in the study. Patients, who signed informed consent, filled a questionnaire and their clinical records were evaluated prospectively. Chest X-Rays were classified according to the classification described by Tattavin, et al.⁴. Epidemiological and clinical data were compared between HIV patients with TB coinfection and those with HIV and other diagnosis. X² and t-test were used to compare data.

During the period studied, 9245 unscheduled visits were recorded, with 286 patients presenting cough. Among the patients with cough, 40 did not sign the consent. Of the remaining who agreed to participated, 35 (13%) presented a TB diagnosis (positive sputum smear and/or positive sputum or blood culture for *M. tuberculosis*), 211 have a non-TB diagnosis (most of them with PCP –n=51, 24%-, community acquired pneumonia –n=70, 33%-). Twenty three of the TB patients were HIV co-infected.

When TB-HIV-coinfected patients were evaluated (Table 1) and compared with HIV-infected patients who have cough but non-TB diagnosis, statistical association with TB was found with: hepatomegaly (p=0.005); splenomegaly (p=0.003); night-sweats (p=0.001); weight-loss of more than 5 kg (p=0.003); duration of symptoms between 15 and 30 days (p=0.03) but not with longer time; elevate alkaline phosphatase (p=0.03); chest X-ray pattern of typical (p=0.0003) or compatible (p=0.013) with TB and previous contact with a

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patient with TB. We could not find association ($p > 0.05$) with hemoptysis, pulmonary physical examination, previous TB or incarceration, lower educational level, LT CD4 count, HIV-1 viral load, number of previous opportunistic infections or white cell count.

In countries with high TB incidence such as Argentina, TB diagnosis in HIV patients with pulmonary symptoms must be always thought but specially in those patients who refer having weight-loss of more than 5 kg, night-sweats and symptoms duration between 15–30 days. This study also highlights the importance of the physical examination (looking for visceromegalies) and X-ray to guide physician to the diagnosis of TB.

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Table 1

Clinical and biochemical characteristics of HIV-infected patients with TB and non-TB diagnosis.

Characteristic	TB patients	Non-TB patients	p
CD4+ T lymphocytes (cell/ml)	153 (5–616)	202.5 (1–946)	0.4153
HIV-1 VL (cp/ml)	14199.5	44280	0.9888
Hepatomegaly	22%	4%	0.005
Splenomegaly	13%	0.5%	0.0039
Night sweats	74%	38%	0.001
Weight loss > 5kg	69%	43%	0.003
Symptoms 15–30 days	21%	9%	0.03
↑alkaline-phosphatase	21%	2%	0.03
X-ray typical TB ¹	30%	4%	0.0003
X-ray compatible TB ²	39%	16%	0.013
Contact TB patient	21%	7%	0.02

¹ Typical of TB: (nodular, alveolar or interstitial infiltrates predominantly affecting the zones above the clavicle or upper zones; presence of cavitation affecting upper zones or the apical segment of the lower lobe).

² Compatible with TB: (enlarged hilar nodes, pneumonic lesion, atelectasis, mass lesion, milliary, pleural exudates).