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Carta al editor
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Late diagnosis of tuberculosis and central nervous system infection

Diagnóstico tardío de tuberculosis e infección del sistema nervioso central

Dear Chief Editor,

The migratory phenomenon in Latin America has significantly increased in recent decades, especially in Brazil and Chile. The frequent vulnerability of many of these migrants constitutes a major concern related to potential risks of emerging and re-emerging diseases. This is due to the poverty situation and the lack of resources for public health care, and current imported cases of measles from Venezuela are a major example of this social burden. Imported cases may increase the challenges related to the control of transmissible infections. In this scenery, pulmonary tuberculosis plays a main role among the communicable diseases. Chilean authors have properly suggested the utilization of basic screening of tuberculosis in migrants from countries of elevated prevalence, aiming to employ early treatment and to prevent infections associated with late diagnosis of an index case (Alarcón & Balcells, 2017).

Recently, we read the very interesting case report of a 63-year-old Peruvian woman who died due to late diagnosis of miliary tuberculosis (mTB) evolving with central nervous system TB (CNSTB) not responsive to quadruple anti-TB schedule (Meregildo, 2018). Imaging studies showed compatible patterns with lung mTB and tuberculomas of CNS. The patient had low immunity due to diabetes mellitus and chronic kidney disease, and the adenosine deaminase (ADA) of the cerebrospinal fluid (CSF) was elevated. However, the CSF cultures positive for *Mycobacterium tuberculosis* only showed susceptibility for the first-line anti-TB drugs six weeks after the death of the patient. The author highlighted the adverse effect of late diagnosis on the poor outcomes of these severe forms of TB. The major key points of the ominous CNSTB were emphasized: miliary lung TB is very frequent; main manifestations are meningitis, tuberculoma, and spinal arachinoiditis; early diagnosis is the cornerstone; the mortality may be up to 100%; CSF studies are mandatory (ADA, polymerase chain reaction, Ziehl-Neelsen, and culture for *M. tuberculosis*); the "paradoxical reaction" (near 30% of cases) found in CFS may be considered pathognomonic of meningitis; the role of bacillemia in TB meningitis occurring in primary TB of youngest people and in immunosuppressed adults or elderly; and treatment of TB based on clinical suspicion, without expensive time consuming tests in the low-income areas (Meregildo, 2018).

Additional comments are done about autopsy data of a non-vaccinated undernourished Brazilian infant who was admitted with advanced mTB and rapidly evolved to death due to acute respiratory stress and irreversible circulatory shock (Dos Santos & Dos Santos, 2018). She lived in a poor rural area without medical resources and did not have adequate evaluation. Delayed diagnosis of pulmonary TB hindered her prompt treatment, favoring bad outcome. Positive maternal antecedent of pulmonary TB and autopsy data indicated postnatal infection. She had foci of mTB in the lungs, lymph nodes and meninges. As the liver was spared, the absence of hepatic lesions contributed to rule out the hypothesis of vertical contamination. One must emphasize maternal contamination and the lack of vaccination in this age group, as well as the role of delayed diagnosis in ominous outcomes (Dos Santos & Dos Santos, 2017; Dos Santos & Dos Santos, 2018; Meregildo, 2018). In high endemic areas the main focus must be the primary prevention.

Special attention should be paid on vaccination and predisposing factors to TB reactivation, including the increase of malnutrition and AIDS. The herein commented articles are indicating that the current under diagnosis, late diagnosis and misdiagnosis of TB should be reduced in Latin America countries (Alarcón & Balcells, 2017; Dos Santos & Dos Santos, 2017; Meregildo, 2018). Therefore, primary health care workers of developing countries should be best informed about the life-threatening role of CNSTB as well as the diagnostic challenges of pulmonary mTB (Dos Santos & Dos Santos, 2017; Dos Santos & Dos Santos, 2018; Meregildo, 2018).

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