Tuberculosis in Times of COVID-19: A Diagnosis Not to Be Forgotten

Tuberculose em Tempos de COVID-19: Um Diagnóstico a Não Esquecer

Keywords: Coronavirus; COVID-19; Mycobacterium tuberculosis; SARS-CoV-2; Tuberculosis
Palavras-chave: Coronavírus; COVID-19, Mycobacterium tuberculosis; SARS-CoV-2; Tuberculose

This case report arises from the importance of tuberculosis as an infectious disease that can have a similar presentation to COVID-19, increasing diagnosis difficulty. In Portugal tuberculosis was considered a priority. However, the COVID-19 pandemic overtook resources, delaying diagnosis and treatment, a risk factor for outbreaks and worse outcomes.[1-4]

We present the case of a 16-year-old female, observed in the Pediatric Emergency Department, with a three-day history of productive cough, thoracic pain, odynophagia, and asthenia. She was febrile on the first day (38ºC), but apyretic since then, without other complaints. There was no known epidemiologic context.

At admission she was febrile (38ºC axillary). The pulmonary auscultation showed crackles at the superior left lobe (SLL). Physical examination was otherwise normal. Thoracic x-ray (Fig. 1) showed apical interstitial infiltrate and atelectasis in the SLL. The blood tests showed anemia (11 g/dL) and C-reactive protein (CRP) of 8.7 mg/dL, without other abnormalities. SARS-CoV-2 testing was negative. She was treated with amoxicillin/clavulanic acid (875/125 mg bid) for eight days, and azythromicin (500 mg id) for five days, with only slight improvement.

She was observed nine days later due to persistence of fever, and was retested for SARS-CoV-2, which came negative.

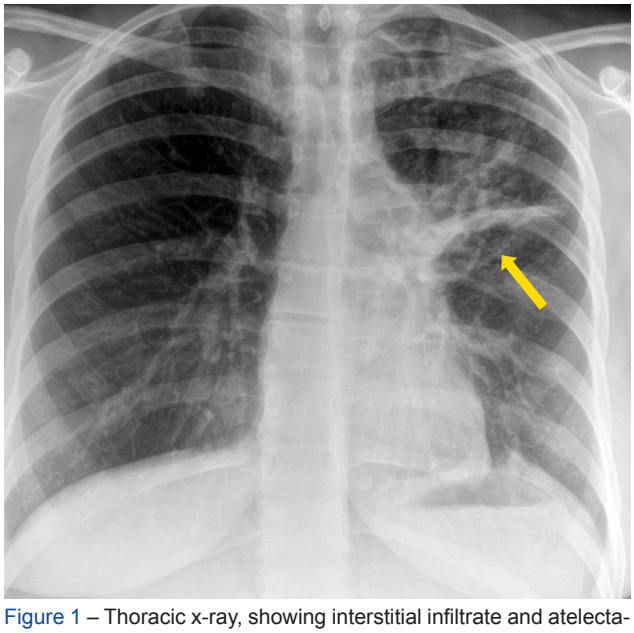

Figure 1 – Thoracic x-ray, showing interstitial infiltrate and atelectasis in the superior left lobe (arrow)

Ten days later she was readmitted with persistent cough, thoracic pain, and intermittent fever. Physical examination and thoracic x-ray were suchlike the previous admission. The third SARS-CoV-2 test was negative.

A thoracic computed tomography scan (Fig. 2) showed several nodular images, cavitary lesions mainly on the SLL, bilateral tree-in-bud infiltrates and segmental paramediastinal atelectasis of the superior right lobe.

The blood tests showed leukocytosis (14 080/ uL), CRP of 9.62 mg/dL and sedimentation rate > 120 mm/hr.

Sputum direct smear showed acid-alcohol-resistant bacilli. The molecular test detected *Mycobacterium tuberculosis* DNA. The rifampin resistance gene was negative. Cultural test for *M. tuberculosis* was negative.

Tuberculosis contacts were investigated. The girl's stepbrother, who had previously lived with the family was diagnosed with active pulmonary tuberculosis.

Her father had had persistent cough for the previous weeks, and due to difficulties in access to medical care had not been observed. He was diagnosed with cavitated tuberculosis.

Treatment was started with isoniazid, rifampin, pyrazinamide, and ethambutol for three months, and then continued with isoniazid and rifampin for 12 months. The antibiogram confirmed susceptibility to first-line drugs and treatment had good outcome.

The COVID-19 pandemic may increase tuberculosis incidence and mortality, delaying tuberculosis strategy timelines. There is also a set of opportunities: contact tracing, dedication of public health units to epidemiologic and infectious disease control and increasing use of digital technologies.[4,5]

Anticipating these setbacks and opportunities might help guide clinical, epidemiologic, and preventive measures.[5]

AUTHORS CONTRIBUTION

MP: Medical follow-up of the patient at the Emergency Room. Draft of the manuscript.

JT: Medical follow-up of the patient at the Emergency Room. Literature review.

IC: Medical follow-up of the patient at the Pneumology Practice. Critical review of the paper.

PROTECTION OF HUMANS AND ANIMALS

The authors declare that the procedures were followed according to the regulations established by the Clinical Research and Ethics Committee and to the Helsinki Declaration of the World Medical Association updated in 2013.

DATA CONFIDENTIALITY

The authors declare having followed the protocols in use at their working center regarding patients' data publication.

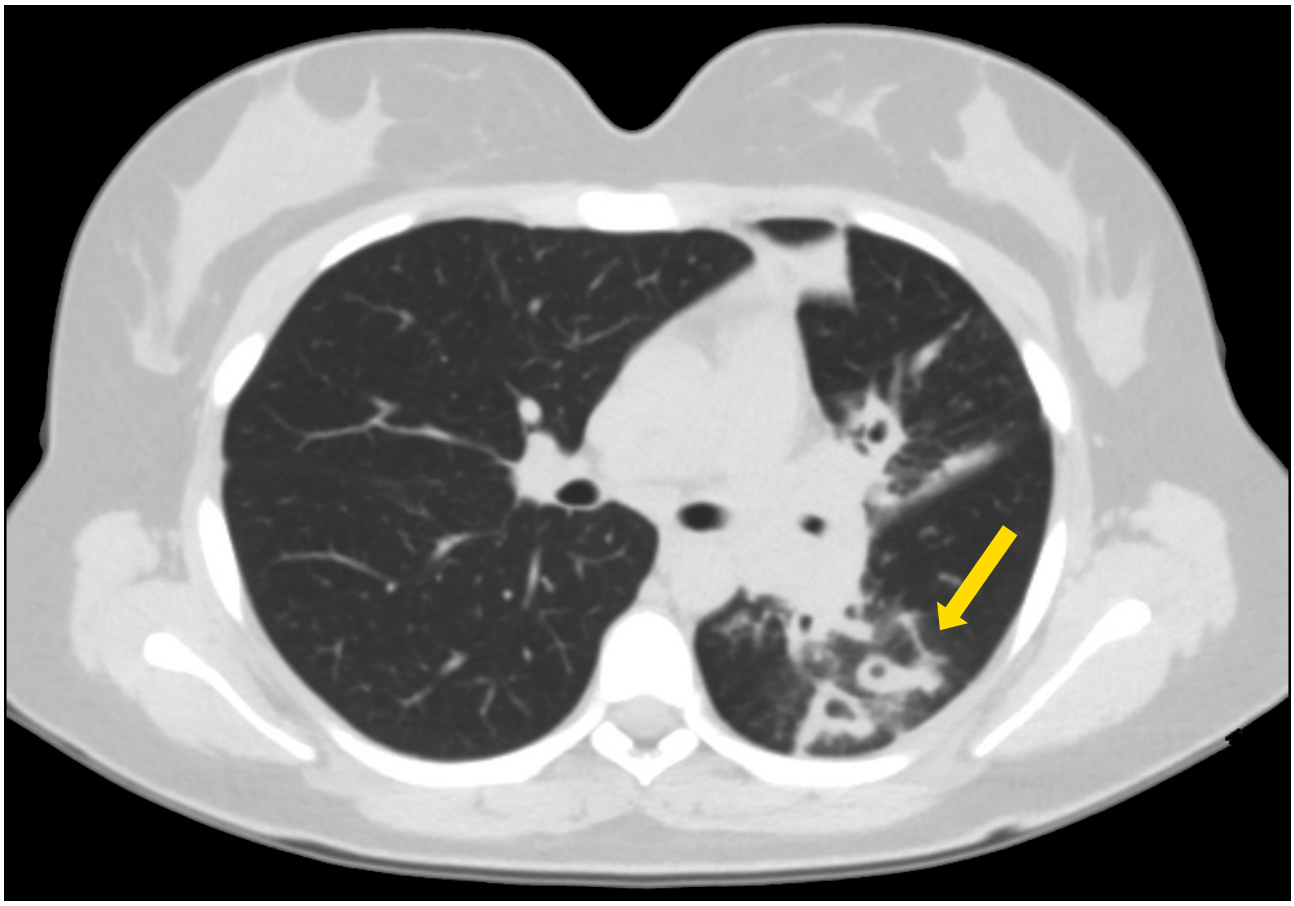

Figure 2 – Thoracic CT scan, showing pulmonary cavitary lesions (arrow)

PATIENT CONSENT

Obtained.

COMPETING INTERESTS

The authors have declared that no competing interests exist.

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