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TB or Not TB: A Diagnostic Challenge

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Abstract **Case Report**

Pulmonary cavities may be highly suggestive of tuberculosis (TB) but can be associated with other infections, autoimmune diseases or malignancies. The authors present a case of a patient with clinical manifestations and relevant epidemiologic factors suggestive of TB whose chest radiography showed a retrocardiac cavity. Further workup excluded pulmonary disease.

Keywords: Diagnostic Challenge, tuberculosis, malignancies, retrocardiac cavity.

INTRODUCTION

Pulmonary cavities are occasionally encountered on chest radiographies and can be caused by many different diseases. The spectrum of differential diagnosis ranges from infections, autoimmune conditions, malignancies and even false cavities. Many radiographic features can suggest a diagnosis but they lack specificity and must always be combined with the clinical history and laboratory or imaging results. Despite the importance of TB the suspicion in patients with clinical manifestations and relevant epidemiologic factors, cavities should be excluded from their mimics in order to prevent further unnecessary and invasive diagnostic workup.

CASE REPORT

An 83-year-old woman, with prior history of hypertension and dyslipidemia, presented with a 6-week history of coughing, slight dyspnoea, malaise, night sweats and anorexia, without weight loss. She initially had fever (maximum 38.2ºC) and purulent sputum and was treated with amoxicillin/clavulanic acid plus azithromycin but symptoms only partially improved. Her husband died a few years earlier with suspected pulmonary tuberculosis and contacts were not screened for this infection. Physical examination revealed crackles on the right pulmonary base; there were no other remarkable alterations. Chest radiography showed a retrocardiac cavitation (Figure-1).

Further work-up was made with two sputum smears that were negative for acid-fast bacilli. Polymerase chain reaction for Mycobacterium tuberculosis was negative. A chest computed tomography (CT) was then performed and revealed a discrete infectious infiltrate in the lower right lobe and the suspicious cavitary image was consistent with a rolling hiatal hernia. Culture for Mycobacterium tuberculosis was subsequently negative. The patient was treated with levofloxacin for the pneumonia with resolution of the symptoms. Surgical correction of the hiatal hernia wasn't performed due to absence of gastroesophageal reflux disease.

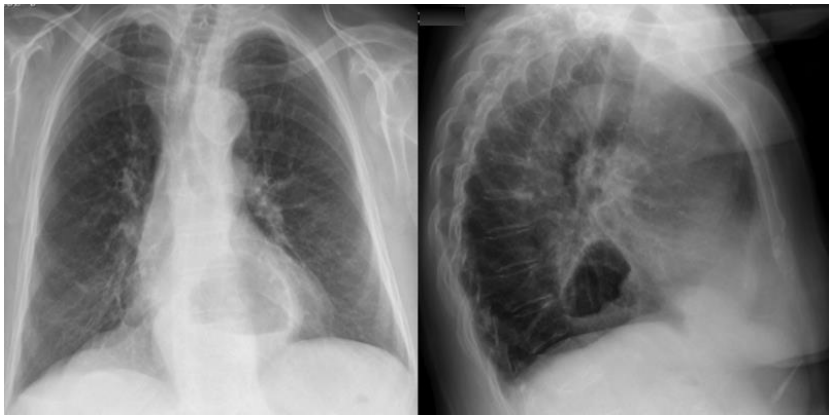

Fig-1: A round retrocardiac cavity with air-liquid level

DISCUSSION

TB must not be forgotten amongst the differential diagnosis of pulmonary cavities and must always be suspected, especially when there are specific risk factors, as in the presented case. Early diagnosis and appropriate treatment are essential to reduce its spread. Pulmonary TB should be suspected in patients with relevant clinical manifestations (persistent cough, fever, night sweats, weight loss, lymphadenopathy) and relevant epidemiologic factors (prior TB infection, exposure or travel to an endemic area). All patient must do chest radiography and if imaging is suggestive, at least 2 sputum specimens must be obtained for acid-fast bacilli smear, culture and/or nucleic acid amplification tests, as performed in our patient. In some cases (inadequate expectoration, negative sputum with high clinical suspicion) bronchoscopy specimens must be obtained [1].

Despite being the hallmark of tuberculosis, cavities are relatively common findings on radiographies among other infections, autoimmune conditions or malignancies and more sensitive thoracic images, as CT, may be required. It is also always important to initially exclude true cavities from their mimics, such as hiatal hernias, cystic disease, emphysema, bullae or bronchiectasis, in order to prevent further unnecessary and invasive diagnostic workup such as bronchoscopy [2].

CONCLUSION

Tuberculosis is an important public health issue and physicians need to be familiar with its imaging findings. Awareness of clinical manifestations and epidemiological risk factors that can influence the appearance of disease is also essential. However, TB must be differentiated from other diseases in order to make the correct diagnosis, prevent unnecessary diagnostic workup and not delay the adequate treatment.

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