

LARYNGEAL TUBERCULOSIS. INITIAL DIAGNOSIS THROUGH MULTIPLE DETECTOR COMPUTED TOMOGRAPHY

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CASE DESCRIPTION

54-year-old male prisoner, 82 kg in weight and 175 cm in height (body mass index 26.78), gave up smoking 2 packs per day 1 year ago, with a history of chronic arterial grade III ischemia in lower left limb and trigeminal neuralgia. This is being treated with clopidogrel, ASA and omeprazole.

He went to the emergency room with a cough, initially productive and then dry for 2 months, accompanied by scarce episodes of hemoptysis and odynophagia, but without dysphonia or weight loss. Physical examination was anodyne. The blood analysis detected PCR levels of 98.40 mg/L, revealing no leukocytosis. He was assessed by the otolaryngologist, who observed a thickened epiglottis with vocal cord involvement, to rule out epiglottic neof ormation.

A multiple detector computed tomography (MDCT) scan of the neck was carried out to show the uniform thickening of the epiglottis with diffuse involvement of the left aryepiglottic fold (Figure 1).

A chest x-ray revealed a cavitated lesion in the apex of the right hemothorax and pseudo condensation images in the apex of the left he-

mothorax (Figure 2). Before this finding, a MDCT of the thorax was carried out, where a cavitated lesion with a thickened wall could be seen in the upper right lobe measuring approximately 47.61 x 48.91 mm, with several micro-cavitated lesions observed in both upper lobes. Also, nodular and centrilobular lesions were observed with a “tree-in-bud” pattern, affecting both lungs and practically all lobes (Figure 3).

There is a broad differential diagnosis, ranging from a neoplastic process to inflammatory and infectious processes. Nevertheless, the first diagnosis to take into account, judging by the findings in the MDCT of the neck and thorax and the chest X-ray, would be laryngeal and pulmonary tuberculosis, even though pathological lymphadenopathy wasn't identified (Figure 3).

The Mantoux test results were negative. The Ziehl-Neelsen stain detected a few acid-fast bacilli, while the Lowenstein 2 culture tested positive for microbacteria. Tetraconjugate tuberculosis treatment began. After 8 days, he showed clear clinical respiratory and laryngeal improvement. After 18 days the smear was repeated, which did not detect any acid-fast bacilli.

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Tuberculosis has a global incidence of 9.6 million cases, with 1.5 million annual deaths¹, making it the main cause of global death by infectious diseases². In Spain, the incidence is slightly less than the rest of the EU at 10.80 cases per 100,000 people in 2014¹. But within the prison environment it's 200 times higher, reaching 2,283 cases per every 100,000 inmates³.

Laryngeal tuberculosis is an infection produced by mycobacteria, which usually comes secondary to pulmonary tuberculosis in 80% of cases, although it can also be primary⁴. It is the most frequent granulomatous disease of the larynx⁵. Even though it only represents 1 to 2% of all extrapulmonary tuberculosis cases, it's the second leading cause of tuberculosis in the neck and head, only surpassed by lymphatic tuberculosis⁶.

This disease affects 2 men for every woman and the average age of detection is usually 44, although in recent years an important increase has been detected in cases within the age range of 55-65 years¹.

The most frequent symptoms are cough, dysphonia and odynophagia and, to a lesser extent, weight loss. In patients who smoke, the number of laryngeal lesions was greater than in those who don't⁸.

Laryngeal tuberculosis is frequently diagnosed late or misdiagnosed due to the symptomology being slow and deceptive². This brings about a very important public health issue⁹. In cases of primary laryngeal tuberculosis, it's important to carry out a proper differential diagnosis with laryngeal neoplasms, as well as in cases of pulmonary tuberculosis accompanied by laryngeal neoplasia⁵.

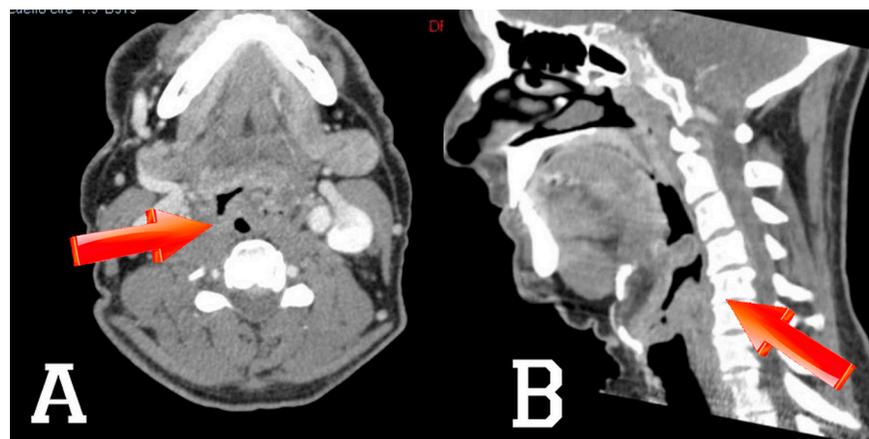


Figure 1. Neck MDCT with contrast: thickening uniformity of the glottis with diffuse involvement of the left aryepiglottic fold. The red arrow indicates the thickening of the epiglottis with involvement of the left aryepiglottic fold.

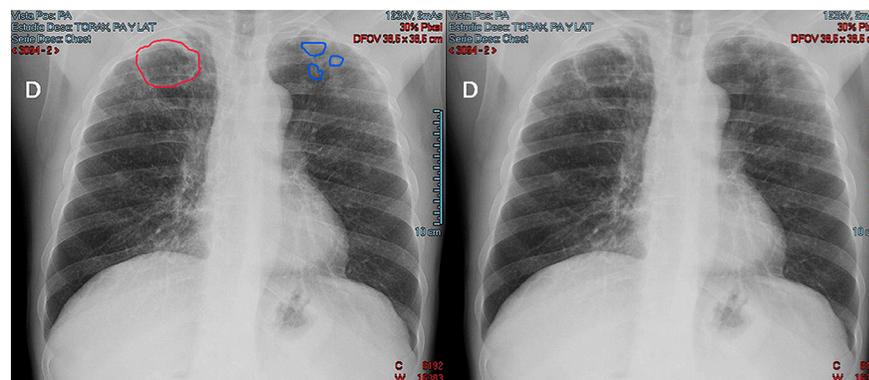


Figure 2. Chest X-ray: cavitated lesion in the apex of the right hemithorax and pseudo condensation images in the apex of the left hemithorax. The red line surrounds the cavitated lesion while the blue lines surround the pseudo condensation images.

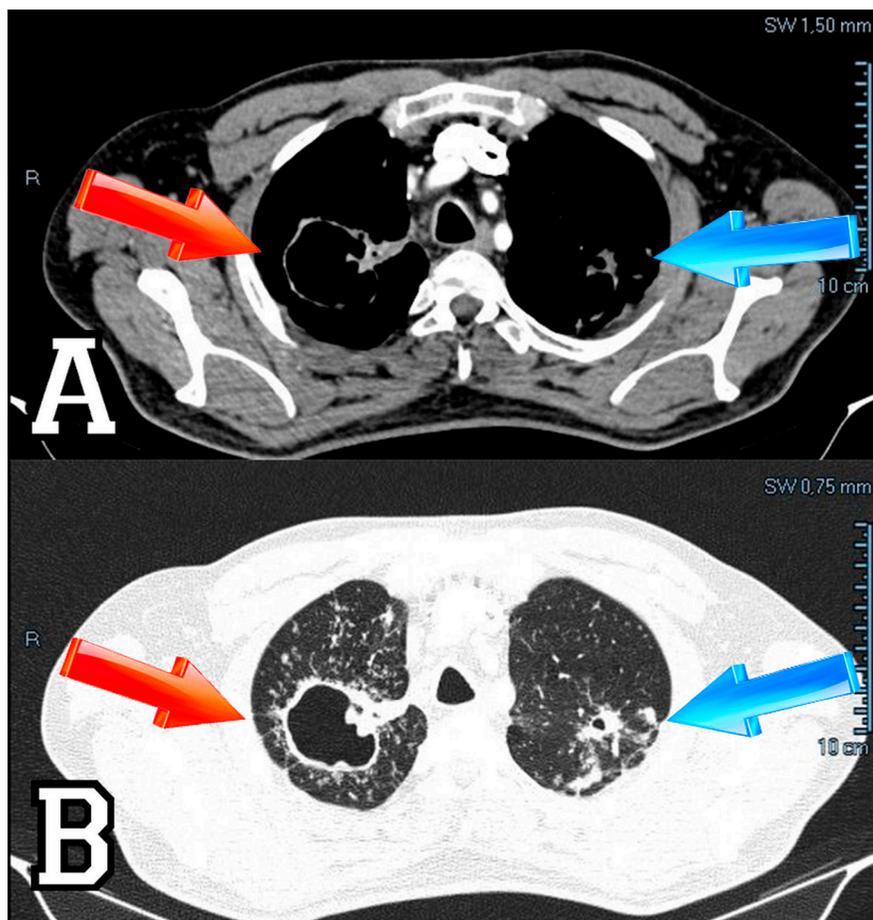


Figure 3. MDCT of the thorax with contrast in the mediastinal and lung windows: cavitated lesion with a thickened wall in the superior right lobe that measures approximately 47.61 x 48.91 mm, observing various micro-cavitated lesions in both superior lobes. Furthermore, nodular and centrilobular lesions with a “tree-in-bud” pattern. The red arrow indicates the cavitated lesion. The blue arrow indicates the nodular and centrilobular lesions.

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