

Pulmonary Thromboembolism Observed by Endobronchial Ultrasound (EBUS)

El tromboembolismo pulmonar visto por ultrasonografía endobronquial (USEB)

To the Editor:

Endobronchial ultrasound (EBUS) is a technique that has been developed for the detection and biopsy of mediastinal lymphadenopathies.¹ However, another possible use that has been reported is in vascular study, integrated in the diagnosis of pulmonary thromboembolism (PTE).² CT angiography is the main imaging method utilized, and diagnosis is reached based on the lack of contrast medium filling the vessel. This, however, is indirect data, unlike the ultrasound, which visualizes the thrombus.

We present the case of a patient who was admitted for dyspnea and was diagnosed with PTE by CT angiography. EBUS, however, revealed a thrombus that was not visible on the CT angiogram.

An 83-year-old woman was admitted for thoracic pain and dyspnea, with 92% oxygen saturation. Physical examination was anodyne, as were electrocardiogram and echocardiogram. Chest

radiograph showed a 1.5-cm pulmonary nodule, which was confirmed by CT. CT also revealed repletion defects in the right main pulmonary artery and in the interlobar branches of the left pulmonary artery, suggestive of PTE. Anticoagulation was initiated. The patient was re-admitted one month later for persistence of the dyspnea. In order to study the nodule, bronchoscopy (BF-Olympus 1T160) was performed, but no endoscopic alterations were found, so EBUS (BF-Olympus UC180F, Aloka alfa-5sx ultrasound) was ordered. We were able to observe in real time echogenic material in the interior of the right upper lobar artery, as well as in the interior of the left main pulmonary artery (fig. 1). Its appearance was pediculated, adhered to the internal face of the vessel wall, and it moved to the beat of the bloodflow. Based on this, new CT angiography showed a defect in the right pulmonary artery, with no alterations observed in the left pulmonary artery, while an ultrasound detected deep vein thrombosis, which had been normal previously. The final diagnosis of the nodule was adenocarcinoma, staged at pT1N0M0.

Due to the fact that the large arteries surround the bronchi and that the ultrasonic depth can reach 5-10 cm, EBUS has become an alternative for visualizing thrombi. In a recent study of 32 patients with central PT using CT angiography, EBUS was able to visualize 97/101 documented thrombi, demonstrating that it is a feasible method.³

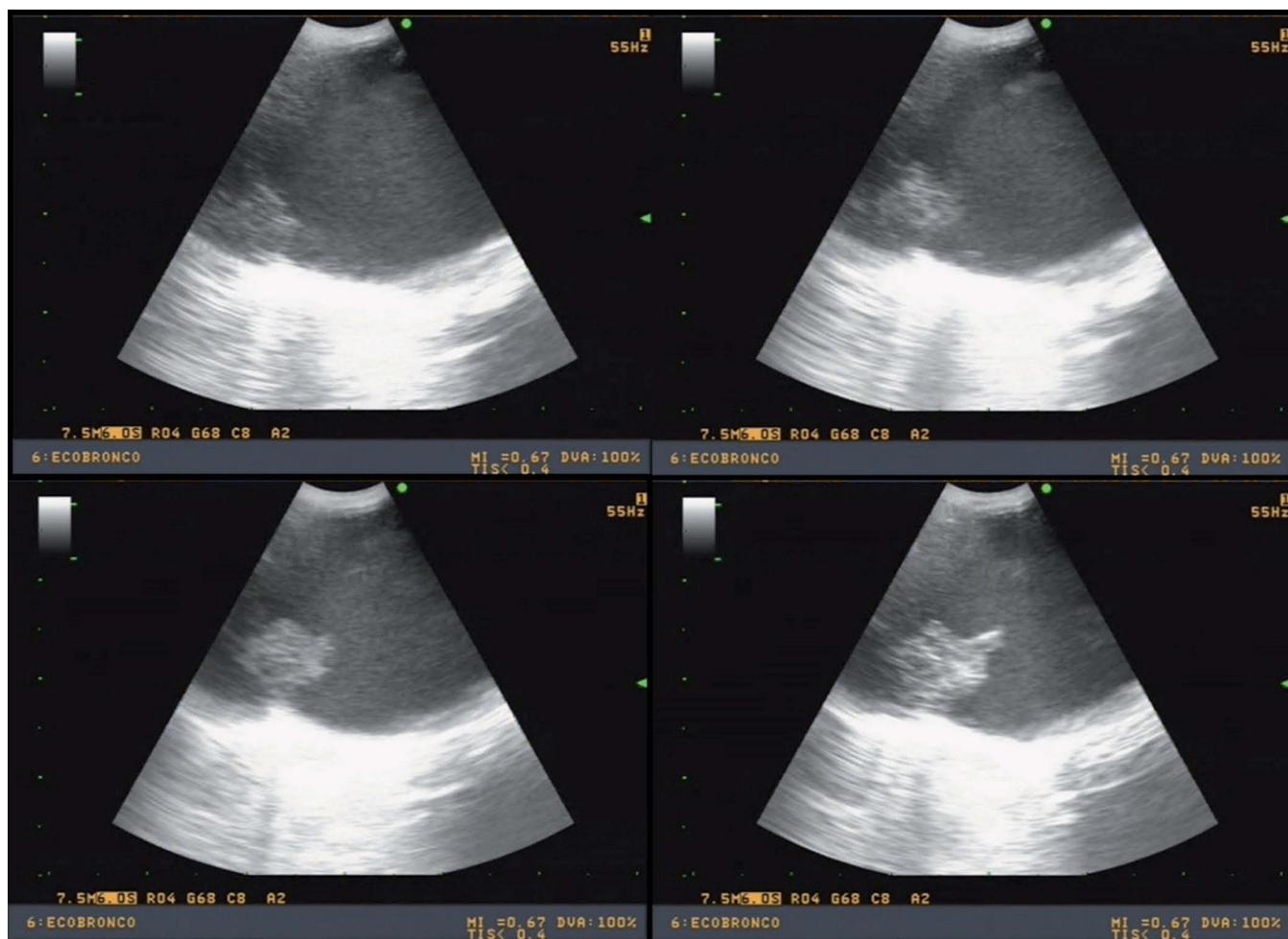


Figure 1. Left main pulmonary artery with floating thrombus, visualized sequentially, moving to the beat of the bloodflow (approximate size 5 mm).

In the present case, a thrombus was observed with EBUS after not having been detected with CT angiography, opening a whole array of possibilities involving a technique that is a recent discovery for pulmonologists.

References

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