

Two air-fluid levels in a pleural cavity

Dos niveles hidroaéreos en una cavidad pleural

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A 56-year-old man with a history of double valve replacement surgery (mitral-aortic) 16 years earlier, with permanent pacemaker implantation due to high grade atrioventricular block, who in recent years had developed a dilated cardiomyopathy, with dilatation of the ascending aorta and the aortic arch and pulmonary arterial hypertension, came to the doctor's office with signs and symptoms of congestive heart failure with dyspnea at rest, orthopnea, abdominal distension and swelling of the lower limbs. Studies showed the presence of ascites and a moderate right pleural effusion. After several days of treatment with high doses of diuretics, no clinical improvement was noticed and it was decided to perform a pleurocentesis in which some 1200 ml of clear fluid (transudate) were extracted. The

patient was discharged, asymptomatic, 24 hours after the procedure. Four days later he was readmitted to hospital with a dyspnea similar to that of the previous hospitalization. The posteroanterior chest radiograph, with the patient standing (**Panel A**), which was repeated to rule out the possibility of any artifact, showed a big right pleural effusion with two air-fluid levels of different radiopacity (arrows).

It was decided to perform a pleurotomy and approximately 1200 ml more were extracted, this time the liquid had a serohematic appearance. The post-pleurotomy radiograph (**Panel B**) showed the disappearance of both levels; however a small amount of pleural effusion persisted, despite the low puncture site. The arrow shows the radiolabel of the pleurotomy catheter.

This rare finding of two air-fluid levels has been observed in one hemithorax; they may be small and multiple, linked to cavernous lesions of tuberculous origin or abscesses. However, the fact that they occupy the whole extent of one thoracic cavity is something that we could not find in the literature, at least

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in that which is available to us. The absence of publications on such cases demonstrates their low incidence.

An explanation for this unusual radiological manifestation could be that the sedimentation of the blood cells of the hemothorax could have generated a lower air-fluid level of greater radiological density and the liquid component (plasma and pleural transudate) could have caused the upper level of less radiopacity, but this hypothesis is difficult to prove. Ultrasonogra-

phy was not useful to clarify this aspect. A tomography, although it is done with the patient lying down, could have been useful; but it was not available at that time and the patient's condition demanded immediate actions.

All those who have had similar cases are invited to debate on this case, as well as all those wishing to give their possible answers to explain this finding.

