**INTRODUCTION**

Acute unilateral pulmonary edema is an unusual clinical condition. Most cases reported in the literature occur at the upper right side and are caused by severe mitral regurgitation (MR). 1-3 We describe a patient diagnosed as having unilateral pulmonary edema after an acute anterior myocardial infarction. Echocardiograms performed in the acute phase ruled out mitral insufficiency. A perfusion lung scan showed left-sided pulmonary hypoperfusion. The diagnosis of acquired hypoplasia of the left pulmonary artery tree was made by chest computed tomography. The pathogenesis and differential diagnosis are discussed.

**Key words:** Pulmonary edema. Heart failure. Hypoplasia pulmonary artery.

**CASE STUDY**

A 76-year-old man, ex-smoker, diabetic and hypertensive, was admitted for Killip Class I acute anterior myocardial infarction of 48 hours’ evolution, with no reperfusion. The electrocardiogram revealed QS complexes in V1-V3. Peak troponin I was 99.7 ng/mL. The echocardiogram performed at admission disclosed an ejection fraction (EF) of 50% with anteroapical akinesia and mild MR.

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**Perfusion pulmonar asimétrica como causa de edema agudo de pulmón unilateral complicando un infarto agudo de miocardio**

El edema agudo de pulmón unilateral es una entidad infrecuente que en ocasiones se ha asociado con la presencia de insuficiencia mitral severa.

Presentamos el caso de un paciente que, tras presentar un infarto agudo de miocardio anterior, presenta un edema agudo de pulmón unilateral. En los ecocardiogramas realizados en la fase aguda se descartó la presencia de insuficiencia mitral. La gammagrafía de perfusión pulmonar mostró una hipoperfusión generalizada del pulmón izquierdo. Se diagnosticó una hipoplasia adquirida del árbol arterial pulmonar izquierdo mediante tomografía computarizada torácica. Sí discuten la patogenia y el diagnóstico diferencial.

**Palabras clave:** Edema pulmonar. Insuficiencia cardiaca. Hipoplasia arterial pulmonar.
monary arterial tree, with apical pleural thickening and scarring changes probably related to remote tuberculosis (Figure 3).

**DISCUSSION**

We describe a patient who, while in the subacute phase of an anterior infarction, presented acute unilateral pulmonary edema, predominantly on the right side. The mechanism of asymmetry was identified as an imbalance in pulmonary perfusion secondary to acquired hypoplasia of the left pulmonary arterial tree, in all likelihood due to pulmonary tuberculosis.

In normal situations, perfusion of both lungs is practically equal (±5%). In the presence of a trigger (e.g., severe ischemia) that produces a sudden rise in capillary pressure, acute pulmonary edema will develop in a symmetrical manner.\(^4\)

In cases of acute unilateral pulmonary edema, the differential diagnosis must be made by comparing it to other causes of alveolar congestion: unilateral pneumonia, broncouspiration, or alveolar hemorrhaging. Most reported cases of acute unilateral pulmonary edema have resulted from severe eccentric MR. A mitral regurgitation jet affecting a pulmonary vein, predominantly on the upper right,\(^1\) can lead to a larger increase in mean capillary pressure in the right side and consequently, a greater degree of right acute pulmonary edema.\(^2,3\) On rare occasions, the asymmetrical increase in capillary pressures is caused by compression of a pulmonary vein outlet by a myxoma or atrial wall hematoma.\(^5\)

Perfusion imbalance between the lungs is another source of acute unilateral pulmonary edema. The degree of edema is proportional to the degree of perfusion; hence, in cases of congenital hypoplasia or pulmonary artery agenesis, the less perfused lobes will...
present a lower degree of edema. The patient we describe, who had left pulmonary hypoperfusion due to acquired hypoplasia of the pulmonary branches, developed acute pulmonary edema in the more highly perfused contralateral (right) lung.

We believe the pathogenic mechanism should be identified in acute unilateral pulmonary edema.

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