

## *Pneumopericardium in a young patient with tuberculous pericarditis*

### *Neumopericardio en un paciente joven con pericarditis tuberculosa*

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*Full English text of this article is also available*

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A 19-year old male presented in the Emergency Room complaining of dyspnea that progressively worsened in the previous week. He also reported asthenia and dry cough in the last month. Clinical exam showed altered general status, pale skin, polypnea, tachycardia at 124 heart beats/min, deafened heart sounds, blood pressure of 100/60 mmHg and jugular vein turgescence. Auscultation of the lungs revealed no abnormal findings. The chest X-ray showed the presence of air surrounding the heart with a sharply outlined pericardium (**Panel A**, arrows). The CT scan showed minimal pericardial fluid effusion and a remarkable pneumopericardium (**Panel B**). The patient was sent to the Thoracic Surgery Department where pericardial drainage was done. The biological exam of the pericardial liquid confirmed the suspicion of tuberculous pericarditis. He was discharged with standard antituberculous treatment.

Pneumopericardium is defined as the presence of air or gas in the pericardium. The first case of pneumopericardium was published by Bricketeau in 1844, who also described an auscultatory sign, the “bruit de Moulin” –mill wheel murmur-. It is a rare medical condition, with a mortality reaching 50%; in cases with cardiac tamponade mortality is around 70%. The etiology of pneumopericardium includes: a) chest trauma, penetrating or blunt, b) fistulas between air-containing organs and the pericardial space, c) medical procedures (esophagectomy/gastrectomy, endomyocardial biopsy, pericardiocentesis, pacemaker placement, cardiac surgery, bone marrow biopsy), d) infectious pericarditis with gas-producing agents, and e) spontaneous cases have been reported in neonates and during asthma attacks. Clinical manifestations include chest discomfort, shortness of breath, cough or palpitations, fever. On physical examination, a patient with pneumopericardium can present mediastinal tympanism, paradoxical pulse, jugular turgescence, distant heart sounds and in some cases a mill-wheel murmur. The ECG can show tachycardia and signs of pericarditis. In some cases, the ECG aspect can change often, even by moving the patient, due to the electrophysiological influence of the air that is present in the pericardial cavity. Chest radiography is most im-

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portant for diagnosis and for exclusion of pneumo-  
mediastinum. CT-scan and cardiac MRI can provide  
information about the etiology. Pneumopericardium

can resolve spontaneously, but in some cases –es-  
pecially with signs of tamponade–, pericardial drain-  
age is required.

