

Pneumopericardium due to stab wound

Neumopericardio debido a herida por arma blanca

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A 24-year-old male was admitted to hospital due to a penetrating stab wound in the right chest. The wound, of 3 cm at skin level, was located at the second right intercostal space. Chest radiography showed a pneumothorax on the same side and a radiolucent collection below the parietal pericardium, from the origin of the great vessels to the apical portion of the left ventricle (**Figure 1**). The arrow points to the line corresponding to the parietal pericardium and the ellipse (dotted line), the air in the transverse sinus. Electrocardiogram showed no abnormality (**Figure 2**), echocardiogram showed that cardiac structures were undamaged, and computed tomography confirmed the presence of a right pneumothorax and a pneumopericardium, without the presence of pneumomediastinum. The radiograph performed after placing a pleu-

rotomy catheter for continuous aspiration demonstrated the resolution of both processes.

Pneumopericardium is a rare complication and is defined as the presence of air in the pericardial cavity. It may be caused by a trauma or not, and its impact may be serious, when it produces cardiac tamponade. It is extremely rare in previously healthy adults without trauma, often of iatrogenic cause. It is a known complication of artificial mechanical ventilation. The diagnosis of a small pneumopericardium may be difficult. It differs from pneumomediastinum in that the radiolucent area surrounding the cardiac silhouette in a posteroanterior (PA) chest radiograph may vary with the patient's movements. Also, the signs of "the transverse air band" and "the air triangle" in PA and lateral chest radiographs, respectively, are specific to the pneumopericardium, as they are the result of air coming into the transverse sinus of the pericardium, also known as Theile sac, which limits in the front with the great vessels, behind with the left atrium and above with the right pulmonary artery. Computed tomography is very sensitive for detecting small amounts of air at this level. The treatment of choice in most cases is expectant management, but

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sometimes proper medical intervention can prevent serious complications. Surgical treatment is necessary

only in selected cases.

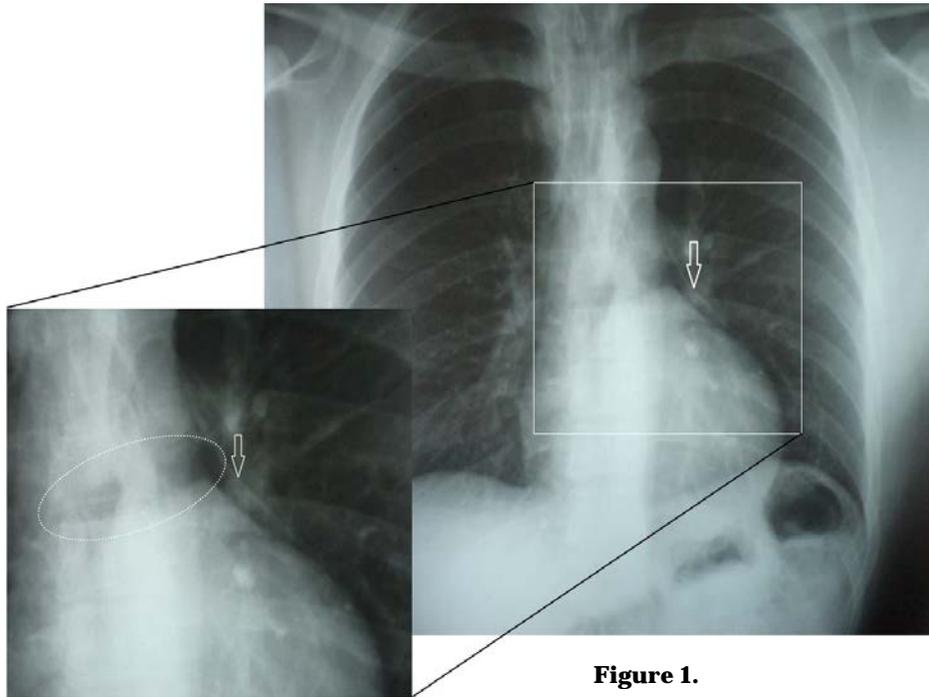


Figure 1.

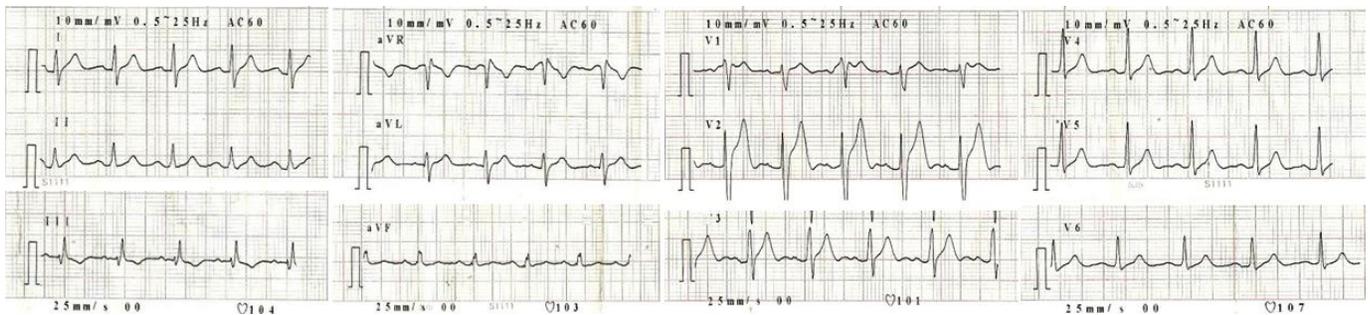


Figure 2.