

Image in cardiology

Cardiorespiratory arrest following coronary computed tomography angiography

Parada cardiorrespiratoria tras angiotomografía computarizada coronaria

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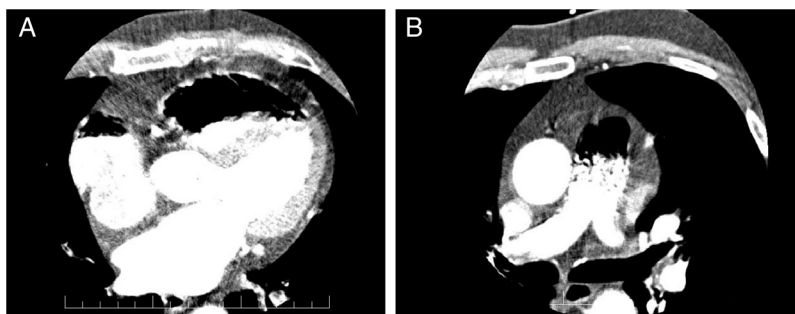


Figure 1.

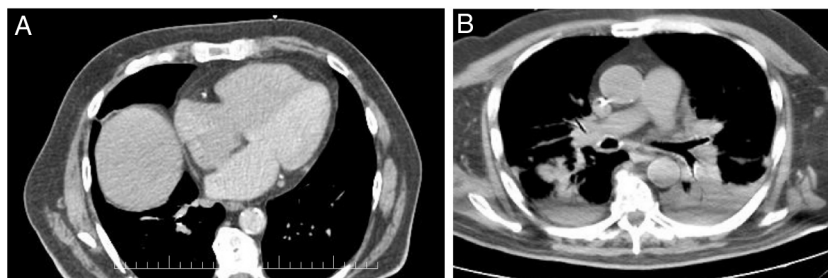


Figure 2.

A 77-year-old man was admitted for exertional dyspnea. The patient had hypertension, diabetes, and dyslipidemia. Coronary computed tomography (CT) angiography was performed to assess coronary artery disease.

During coronary computed tomography angiography, a technical failure of the contrast injector occurred, and the patient immediately presented cardiorespiratory arrest in asystole. After 2 to 3 minutes, he recovered hemodynamic stability.

CT images revealed a large air embolism (volume of 100 cc) with hydro-aerial levels in the right heart chambers and the pulmonary artery (figure 1). Initially, he was connected to invasive mechanical ventilation (FIO₂ 90%) and received crystalloids and norepinephrine to achieve hemodynamic stability. Trendelenburg was adopted to reduce the risk of paradoxical thromboembolism. Hyperbaric chamber therapy was performed within the first hour, with 4 extensions with oxygen/air 18-9 meters deep and 9 meters to surface with a total duration of 465 minutes.

A follow-up CT scan showed pleural effusion and atelectasis in both lower lobes; findings that represent bilateral lung injury, conversely, did not show filling defects in the lumen of the pulmonary arteries or signs of pulmonary infarction (figure 2). The patient was extubated 24 hours later and remained in the cardiology ward for 5 more days for surveillance. He was discharged without complications.

Air embolisms after CT studies are a common complication, but most are small asymptomatic emboli. Their incidence ranges from 11.3% (injector) to 23.1% (manually). The prognosis depends on the size of the embolism.

Their treatment is based on cardiorespiratory support measures. Hyperbaric chamber should be considered in some cases within the first few hours to reduce air damage.

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