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Cardiovascular

Two patients with out-of-hospital cardiac arrest

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CASE PRESENTATION

A 52-year-old female was brought to the emergency department (ED) after out-of-hospital cardiac arrest (OHCA). Four weeks ago the patient underwent surgery for Achilles tendon rupture and suffered from dyspnea for several days. After aggravation of symptoms an ambulance was called. The patient experienced cardiac arrest with pulseless electrical activity (PEA) upon arrival of the ambulance team

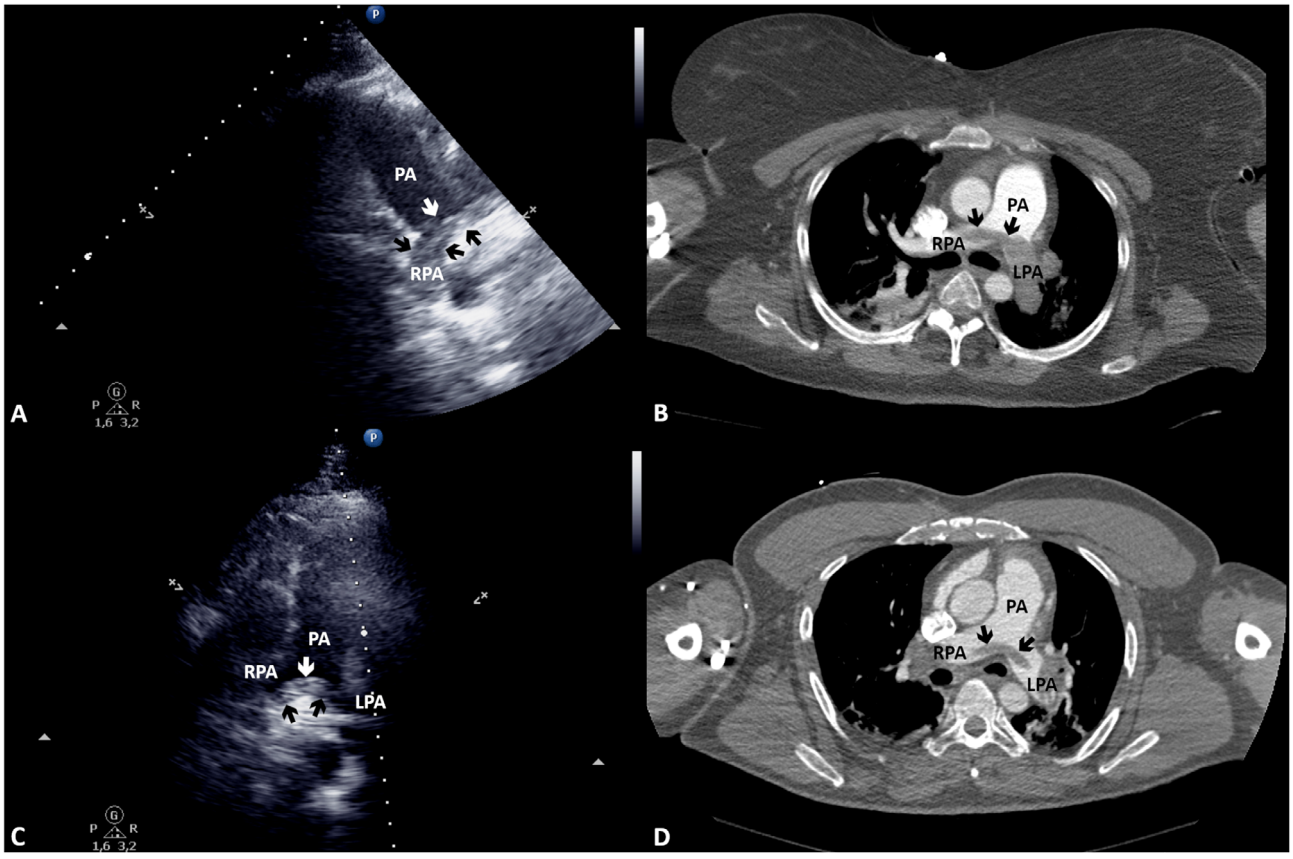

FIGURE 1 Echocardiography (A, C) and computed tomography (B, D) show pulmonary embolus (marked with arrows) in the pulmonary artery (PA) and its extension in the left (LPA) and right pulmonary artery (RPA)

and the woman was transported under ongoing cardiopulmonary resuscitation to the emergency department. After implantation of an extracorporeal life support (ECLS) system and thrombolytic therapy spontaneous circulation returned. A focused echocardiogram revealed signs of right heart strain and an embolus in the pulmonary artery (Figure 1a), computed tomography confirmed the diagnosis (Figure 1b).

In a second case, a 50-year-old male suffered OHCA with PEA after sudden onset of dyspnea several minutes earlier. An ECLS system was implanted on scene and thrombolytic therapy was started. Upon arrival at the ED, an embolus was detected in the pulmonary artery (Figure 1c) by echocardiography and computed tomography confirmed the diagnosis (Figure 1d). Both patients died as a result of hypoxic brain injury several days later.

DIAGNOSIS

Massive pulmonary embolism

In both cases, massive pulmonary embolism was the cause of cardiac arrest. The European Guidelines for postresuscitation care[1] recommend early echocardiography after return of spontaneous circulation for evaluation of myocardial dysfunction. Although echocardiography alone cannot rule out pulmonary embolism, a trained examiner can sometimes visualize the embolus in the pulmonary artery and, therefore, identify the underlying cause of cardiac arrest with point-of-care ultrasound.

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CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

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