A 73-year-old woman presented with sudden cardiac arrest near the ending of regular haemodialysis. Immediate cardiopulmonary resuscitation (CPR) was performed and return of spontaneous circulation (ROSC) developed after 5 min. She had a history of hypertension, diabetes mellitus and end-stage renal disease under maintenance haemodialysis. After ROSC, her consciousness regained. Her blood pressure was only 78/55 mmHg, and respiratory rate was 20 breaths per minute. Blood tests during CPR showed potassium of 3.4 mmol/l, troponin of 34.3 pg/ml and glucose of 143 mg/dl. In the meanwhile, the analysis of arterial blood gas while using Bag-Valve-Mask with 100% FiO2 showed a pH of 7.432, PaCO2 of 38.9 mmHg, PaO2 of 288.4 mmHg and HCO3- of 23.8 meq/l. Emergent image studies including chest radiography, and computed tomography (CT) of brain and chest were done. No significant abnormal findings were noted on the chest radiography and CT of brain. However, there was gas (arrow) in the pulmonary artery without any evidence of pneumothorax on the chest CT (Figure 1). Under the impression of sudden collapse caused by pulmonary air embolism, she was admitted to intensive care unit (ICU) to receive haemodynamic support and close monitoring of respiratory condition. After 2 days of ICU stays, her haemodynamic and respiratory status stabilized even when undergoing haemodialysis. Finally, she was discharged uneventfully 1 week later.

After a comprehensive work-up, pulmonary air embolism was considered the cause of sudden cardiac arrest in the present case. The source of air entrance was supposed to be inadvertent injection of air via arteriovenous fistula while fluid infusion in the ending of haemodialysis. Most cases of pulmonary air embolism are caused by iatrogenic complications, such as surgery, fluid infusion, central venous catheter insertion, pacemaker insertion and positive pressure ventilation. In addition, pulmonary air embolism can develop in the setting of both penetrating and blunt chest trauma. By this case, we would remind clinicians that the...
differential diagnosis of sudden collapse should include pulmonary air embolism, especially in some clinical situations. In such cases, chest CT can help us in making the diagnosis.

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