An unusual clinical course after out-of-hospital cardiac arrest

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Case history
A 50-year-old man, with no history of cardiac disease, was admitted to the emergency room after an out-of-hospital cardiac arrest (OHCA). A bystander reported that our patient suddenly collapsed during exertion at a health & fitness facility. Bystanders provided basic life support (BLS). One shock of 200 J was delivered for ventricular fibrillation (VF) using an immediately available automatic external defibrillator (AED).

After 5 minutes an ambulance arrived and the paramedic crew took over the resuscitation. The initial rhythm was VF. After two 200 J shocks, VF changed into sinus tachycardia with a palpable pulse. In the meantime he was endotracheally intubated and mechanically ventilated with oxygen. The patient was referred to hospital. VF was noted again during transport and the patient received manual chest compressions and was once more electrically defibrillated.

An electrocardiogram (ECG) that was made on arrival in the emergency room showed sinus tachycardia with a heart rate of 120 beats/minute. No ST-T wave changes or Q waves were seen. There was no acute indication for a percutaneous coronary intervention (PCI). He was admitted to our intensive care unit and received the standard regimen of medical treatment, i.e. aspirin, clopidogrel and subcutaneous low molecular weight heparin. To limit further hypoxic brain injury, artificial hypothermia using a cooling blanket was initiated. We aimed for a temperature of 32-34°C with passive rewarming after 12 hours. The patient was mechanically ventilated and sedated with a propofol and morphine infusion. Therapeutic cooling produced bradycardia and hypotension that responded well to saline infusion, norepinephrine and dopamine intravenously.

After an uneventful period of 48 hours his blood pressure dropped to 95/65 mmHg with a heart rate of 100/minute. We found right upper abdominal tenderness with abdominal distension. The ECG showed no features of myocardial infarction. On transthoracic echocardiography no signs of cardiac dysfunction were observed. Laboratory tests revealed a haemoglobin level of 3.2 mmol/l, platelets of 163 x 10^9 and an INR of 1.3. Liver function tests were ASAT 532 U/l and ALAT 598 U/l. A diagnostic abdominal CT scan was performed. (See Figure 1)

What is your diagnosis?

Answer to photo quiz (on page 220)