Cardiology

Aborted sudden death in a young male

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Answers on p 664.

The Emergency Medical Service (EMS) crew was asked to attend to a 40 year old man, after he suddenly lost consciousness in the midst of a family get together at his home. On arrival, the EMS crew found him to be unresponsive and pulseless. The initial "paddles on" electrocardiogram (ECG) showed ventricular fibrillation and patient was successfully cardioverted. (two direct current shocks: 200 J and 360 J) He was intubated and transported to our hospital's emergency room, where the initial evaluation revealed him to be disoriented and agitated. His pulse rate was 140 beats/min and blood pressure 150/90 mm Hg. Cardiorespiratory and abdominal examination were within normal limits and there were no focal neurological deficits.

His packed cell volume, white cell and platelet counts were normal, as

were his serum electrolytes, renal, hepatic, and thyroid function tests. Arterial blood gas analysis showed combined respiratory and metabolic (lactic) acidosis thought to be related to the cardiorespiratory arrest that he had suffered earlier. Creatine kinase and troponin-I levels on admission were within normal limits. A urine toxicology screen was negative. Computed tomography of the brain was normal. A 12-lead ECG was obtained and is shown in fig 1. A definitive echocardiographic study done a week later revealed normal chamber size, no wall motion abnormalities, and a normal ejection fraction.

Subsequently it was confirmed that the patient had suffered a witnessed syncope episode in his home country (Mexico) five years previously, which was not clinically investigated. He was a

smoker and had a history of binge alcohol drinking. He was not on any chronic medication.

QUESTIONS

- (1) What is the ECG (fig 1) diagnosis? Why is it important to recognise this condition?
- (2) What is the pathophysiological basis of this condition? What further diagnostic tests would you consider doing in this patient?
- (3) How is this condition treated? What is the prognosis?

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Figure 1 The 12-lead ECG.