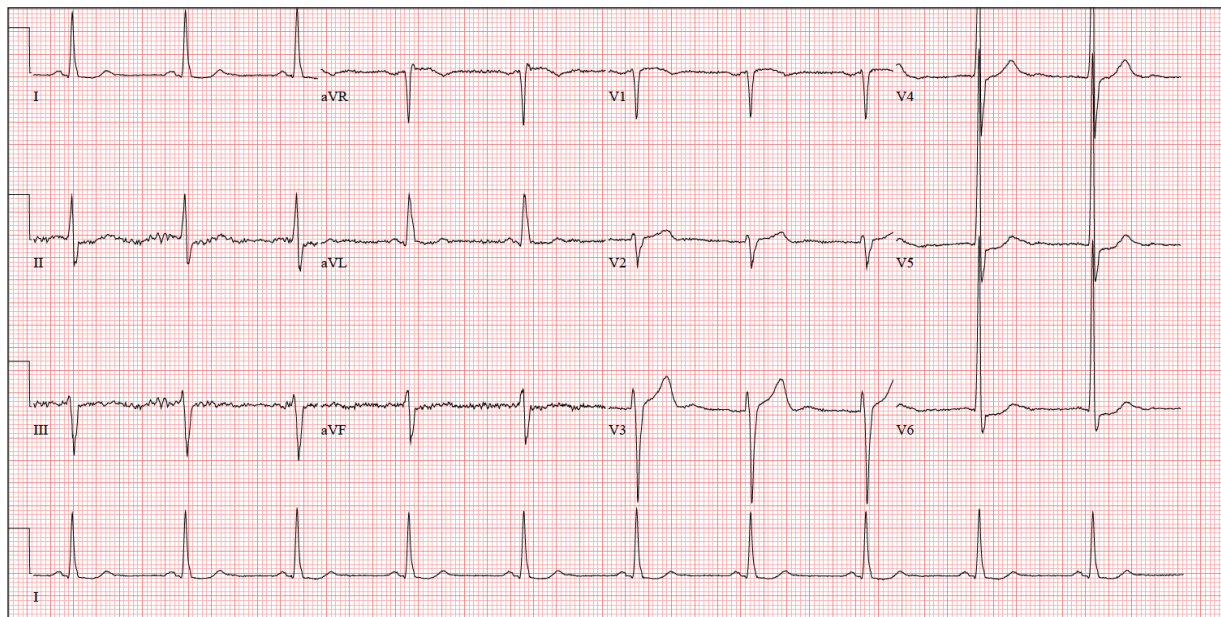


Fatal Family History Worries Young Man



A college student, 19, presents with increasing palpitations. Six months ago, when they began, they were rare and intermittent; now they occur daily, primarily at night.

He has just received an athletic scholarship and worries that the palpitations may affect his ability to play. Furthermore, his older brother died of sudden cardiac death in high school, while playing football, and the patient is afraid this may happen to him too.

He is in otherwise excellent

health and has never been hospitalized. He takes no medications but has smoked marijuana a couple of times. He has not used performance enhancing drugs or homeopathic medications.

A careful review of his family history reveals that two uncles, a brother, and a cousin died of sudden cardiac death. Their ages at the time of death were 42, 51, 17, and 54, respectively.

Review of systems is unremarkable. Vital signs include a blood pressure of 108/62 mm Hg; pulse, 60 beats/min; and respiratory rate, 14 breaths/min⁻¹. His weight is 179 lb and his height, 78 in. The physical exam reveals a tall, thin, well-developed young male in no distress. A comprehensive examination reveals no adverse findings. There are no palpitations heard or felt.

Despite the lack of unusual

physical findings, the patient's family history concerns you. You decide to order an ECG and an echocardiogram. The ECG shows a ventricular rate of 61 beats/min; PR interval, 120 ms; QRS duration, 108 ms; QT/QTc interval, 430/432 ms; P axis, -25°; R axis, -14°; and T axis, 12°. What is your interpretation of this ECG—and is further work-up indicated?

ANSWER

The ECG shows normal sinus rhythm and left ventricular hypertrophy (LVH). LVH is indicated by high voltages in limb leads I and III (sum of R and S waves in leads I and III ≥ 25 mm) or in precordial leads V₁, V₅, and/or V₆ (sum of V₁ and either V₅ or V₆ ≥ 35 mm).

Subsequent work-up, including echocardiography and genetic testing, revealed a familial LVH. **CR**



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