ECG Diagnosis: Apical Hypertrophic Cardiomyopathy

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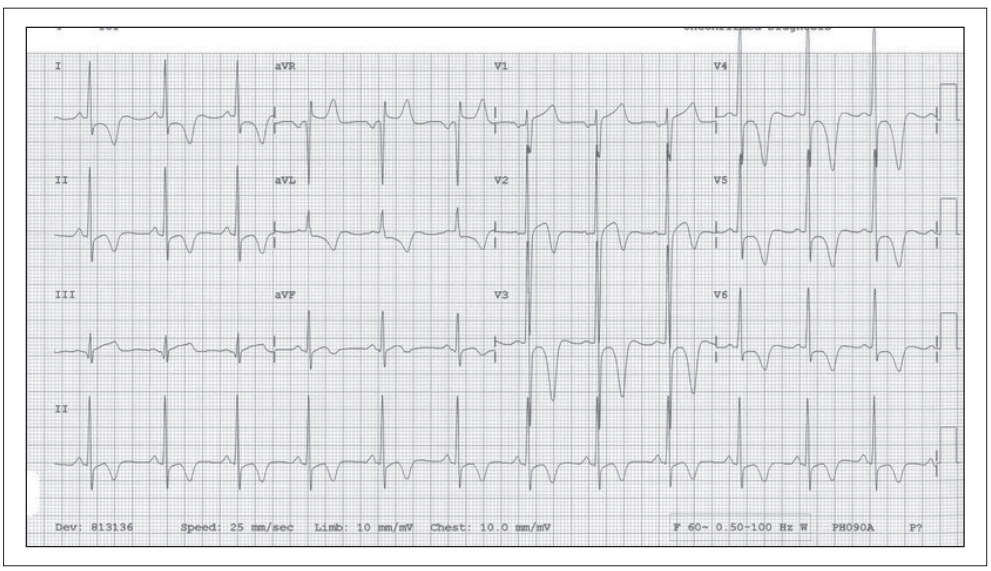

Figure 1. 12-lead ECG from a 52-year-old man following a syncopal episode.
Demonstrates a normal sinus rhythm, with left ventricular hypertrophy and deep, inverted T waves in leads I, II, aVL, and V_3-V_6 (> 10 mm inverted T waves in V_3-V_5). A transthoracic echocardiography demonstrated evidence of apical hypertrophic cardiomyopathy.

Apical hypertrophic cardiomyopathy (HCM) is an atypical phenotype of nonobstructive HCM with an indistinguishable histology.[1] In Japan this apical variant constitutes approximately 25% of patients with HCM, although it is uncommon in other parts of the world, accounting for only 2% of patients with HCM.[1] The electrocardiogram in apical HCM typically shows repolarization changes and giant (>10 mm), inverted T waves in the anterolateral leads (particularly in leads V_4 and V_5).[2,3] Transthoracic echocardiography is the initial test of choice in making the diagnosis. Patients with apical HCM can present with chest pain, dyspnea, palpitations, or syncope.[1] Patients with this condition may remain asymptomatic, with the condition detected by chance as a result of an abnormal electrocardiogram.[3] In general, the condition carries a benign prognosis, although complications including ventricular tachycardia, atrial fibrillation, apical myocardial infarction, and apical aneurysm can occur in rare instances.[1] ❖

References

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