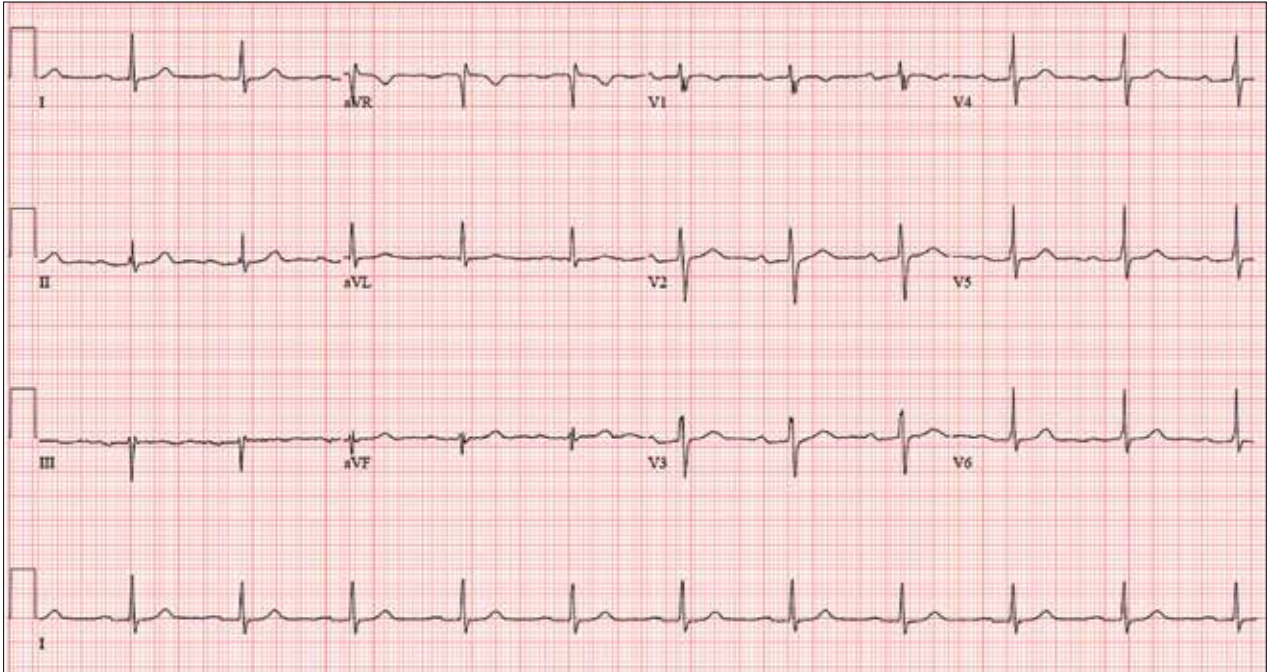


Taking One for the Team



In an effort to detect cardiopulmonary abnormalities in student athletes, a local university holds a screening event in which an ECG is performed on each student. When the football team notices that their coach, a 36-year-old man, has not participated, they jeer him. Under this good-natured pressure, he agrees to be screened.

On exam, he appears in excellent health and has no medical or physical complaints. His medical history is unremarkable. He has participated in sports for most of his life and has never had symptoms of chest pain, dyspnea, shortness of breath, syncope, or near-syncope. An annual physical exam with his primary care provider four months ago provided him with a “clean bill of health.”

His surgical history includes an open reduction and internal fixation of a high ankle fracture, sustained while playing football in college.

The patient is married and has two children, both of whom are in good health. Family history is positive for hypertension, type 2 diabetes, and endometrial cancer. He has never smoked cigarettes and denies il-

licit drug use aside from trying marijuana in college. He rarely consumes alcohol (just at social events). He is not taking any medications and has no known drug allergies.

The review of systems is significant for a recent (now resolved) upper respiratory illness. He denies any changes in bowel or bladder function, as well as any endocrine, neurologic, or constitutional symptoms.

Vital signs include a blood pressure of 108/64 mm Hg; pulse, 70 beats/min; and respiratory rate, 12 breaths/min⁻¹. His height is 76 in and his weight, 204 lb. Since this is a screening event and not a standard appointment, a complete physical exam is not performed.

The patient’s ECG shows a ventricular rate of 66 beats/min; PR interval, 266 ms; QRS duration, 98 ms; QT/QTc interval, 410/429 ms; P axis, 26°; R axis, -6°; and T axis, 43°. What is your interpretation?

ANSWER

The correct interpretation of this patient’s ECG includes sinus rhythm with a first-degree atrioventricular (AV) block, other-



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wise within normal limits. A first-degree AV block is diagnosed based on a PR interval > 200 ms, which represents a prolonged conduction time from the sinus node to the ventricles. A 1:1 ratio of P waves to QRS complexes with consistent PR intervals eliminates the possibility of a second- or third-degree heart block.

First-degree AV block is generally a be-

nign finding. However, care should be taken if the patient ever needs medications to slow AV nodal conduction (ie, β -blockers, calcium channel blockers).

Finally, it may be tempting to consider Wolff-Parkinson-White syndrome based on the delta wave seen in leads V_4 to V_6 . But this possibility is ruled out by the presence of a first-degree AV block. **CR**