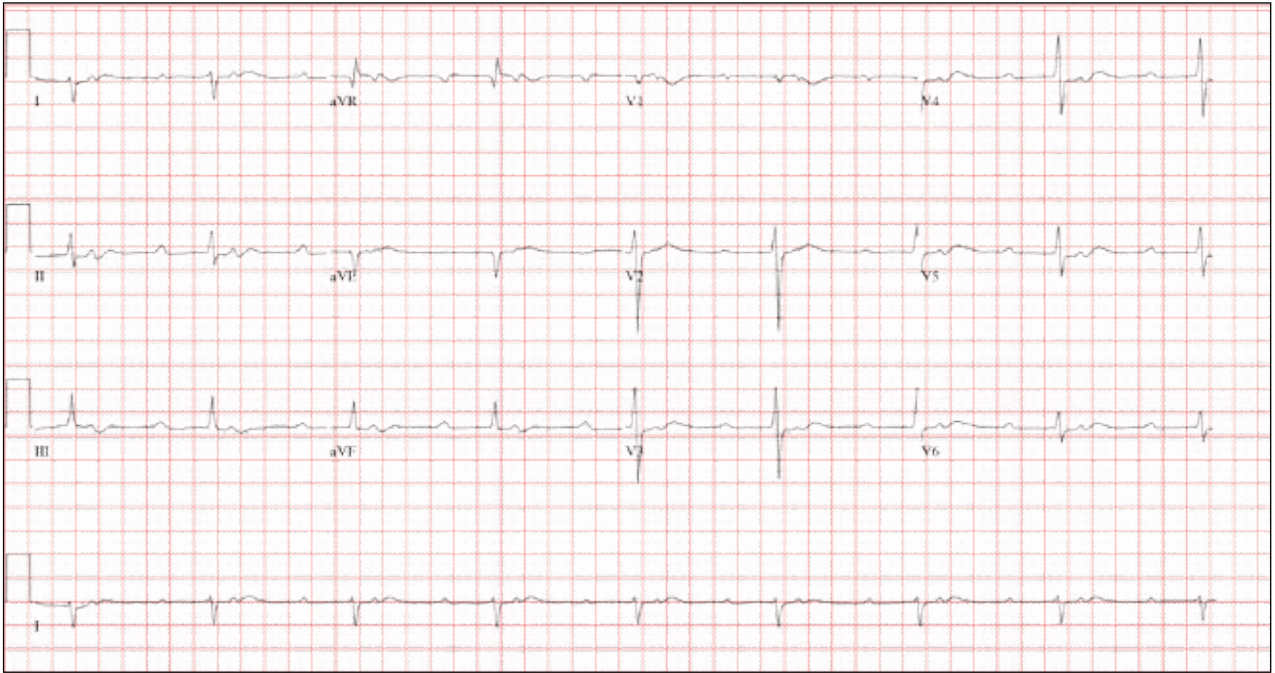


No Walk in the Park



A 47-year-old man is transported to your facility by ACLS ambulance after being found unresponsive in a public park. When aggressive attempts to wake him were unsuccessful, the paramedics intubated the patient. His heart rhythm was regular at 50 beats/min, and tissues were pink with good capillary refill, suggesting he was perfusing well.

On his arrival, you realize you have encountered the patient before. He has a history of chronic intravenous (IV) drug use and group B *Streptococcus* endocarditis; the latter was complicated by a perivalvular abscess that required replacement with a bioprosthetic aortic valve about eight months ago. His postoperative course was complicated by intermittent atrial fibrillation with conversion pauses of 4 sec. An electrophysiology consult, for possible permanent pacemaker placement, was obtained—but the patient left against medical advice before being seen. He has been lost to follow-up since.

Today's review of the electronic medical record identifies an allergy to sulfa and IV contrast. He has been enrolled in a metha-

done clinic but has not been seen there for the past month. Further history, pharmacologic regimen, and review of systems are unobtainable, as the patient is sedated and intubated.

Physical examination reveals an unconscious, unresponsive, malnourished male. His blood pressure is 96/54 mm Hg; pulse, 50 beats/min; temperature, 38.6°C; respiratory rate, 16 breaths/min⁻¹ (ventilated); and O₂ saturation, 100%. He has multiple tattoos over his upper and lower extremities and torso. Examination of the extremities reveals old and new needle tracks, with dense scarring in both antecubital fossae.

The HEENT exam is remarkable for poor dentition with multiple missing teeth and a perforated nasal septum. The neck veins are distended to the angle of the jaw. Auscultation of the lungs reveals coarse, rhonchorous mechanical breath sounds with absent breath sounds in the right base.

The cardiac exam is positive for a grade IV/VI holosystolic murmur, best heard in the left upper sternal border. The abdomen is scaphoid, and a firm liver edge is palpable 2 cm below the right costal margin. The right



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knee is inflamed and erythematous, with palpable fluid. The neurologic exam documents that both pupils are reactive to light.

Laboratory data reveal a positive toxicology screen for cocaine, methadone, and opioids. He also has a leukocytosis level of 24,500/ μ L. A supine single-view chest x-ray shows consolidation of the right lower lobe and multiple perihilar nodules that were present on a previous chest x-ray.

An ECG shows a ventricular rate of 50 beats/min; PR interval, 415 ms; QRS duration, 102 ms; QT/QTc interval, 456/415 ms; P axis, 67°; R axis, 131°; and T axis, -29°. What is your interpretation?

ANSWER

This ECG demonstrates sinus rhythm with second-degree type II block, right-axis deviation, and ST-T wave changes in the inferior leads, suggestive of ischemia. A P-P

interval of 100 beats/min meets the criteria for sinus rhythm.

Second-degree type II block is evidenced by two P waves for each QRS complex with a consistent PR interval. In this example, the PR interval is significantly prolonged at 415 ms. Normally, this would be a rather impressive first-degree AV block. However, a second P wave (integrated in the ST interval, best seen in the rhythm strip at the bottom) makes this second-degree type II block.

Right-axis deviation is defined by an R-wave axis of 90° to 180°; thus this patient qualifies at 131°. Finally, ST-T wave depressions are evident in leads II, III, and aVF, suggestive but not indicative of inferior ischemia. The patient was found to have a recurrent perivalvular abscess of his artificial aortic valve, as well as right lower lobe pneumonia. **CR**