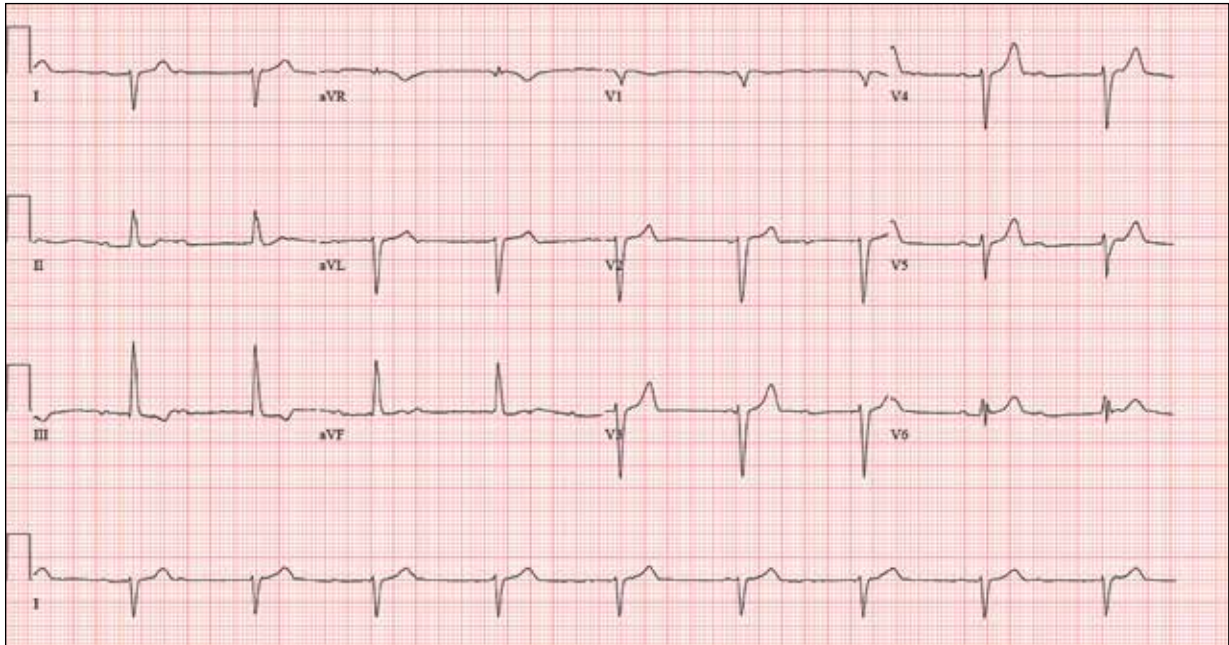


# An Exhausting Case of “Smoker’s Cough”



**O**ne week ago, a 67-year-old African-American woman with a history of diabetes, hypertension, and smoking developed a nonproductive cough and chest discomfort. Over the past 24 hours, her symptoms have progressed, with increasing fatigue. She has delayed seeking care to spend time with visiting family, but this morning she calls for an appointment.

At presentation, she describes her chest discomfort as a “vague,

dull ache.” She denies sharp chest pain, radiation, syncope, near-syncope, and palpitations. She says her cough has resolved, aside from her usual early-morning “smoker’s cough.” However, she still experiences fatigue with exertion and must stop to rest after walking up one flight of stairs or about half a block on level ground. When asked about gardening, her favorite hobby, she tells you she stopped last week because she “didn’t have the energy” for it.

Her medical history is remarkable for type 2 diabetes (for the past 10 years) and hypertension, for which she has been treated her entire adult life. She also has osteoarthritis. In the 20 years she has been in your patient panel, she has closely monitored her health and been vigilant about taking her medications. Her sur-

gical history is remarkable for hysterectomy, cholecystectomy, and bilateral bunion resections.

The patient retired two years ago after a 20-year career as a tax attorney. Her husband died of a myocardial infarction at age 56. She has two adult children, who also have hypertension. She has a 50-pack-year history of tobacco use and smokes up to one full pack of cigarettes per day. She denies alcohol and illicit drug use, aside from the occasional “nip” of brandy and infrequent marijuana use.

Her medication list includes metformin, glyburide, hydrochlorothiazide, and lisinopril. She is allergic to sulfa.

The review of systems is remarkable for hearing loss, diabetic neuropathy in both feet, and chronic loose stools. Vital signs include a blood pressure

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of 148/88 mm Hg—higher than measurements from her past three visits. Her pulse is 60 beats/min; respiratory rate, 14 breaths/min<sup>-1</sup>; and temperature, 98.8°F.

On physical exam, her weight is 201 lb and her height is 68 in; her weight has remained stable over the past two years. The HEENT exam findings include corrective lenses, bilateral hearing aids, and extensive dental work (including veneers). The neck is supple, without thyromegaly or jugular venous distention. The lungs are clear in all fields, apart from occasional crackles in both bases that clear with coughing. Her cardiac exam reveals a regular rate with no extra heart sounds or rubs, but a soft, early diastolic murmur at the left lower sternal border. The

abdomen is soft and nontender with well-healed surgical scars and no palpable masses. Osteoarthritis is present in both hands, and her left hip has decreased range of motion, compared to her right. Peripheral pulses are strong bilaterally, and her neurologic exam is intact.

You draw laboratory specimens and order a chest x-ray and ECG, which reveals a ventricular rate of 56 beats/min; PR interval, unmeasurable; QRS duration, 106 ms; QT/QTc interval, 400/386 ms; P axis, 36°; R axis, 120°; and T axis, 7°. What is your interpretation of this ECG?

#### ANSWER

The correct interpretation includes sinus rhythm with com-

plete heart block and a junctional rhythm, a rightward axis, and evidence of an anterior myocardial infarction (MI).

Sinus rhythm is evidenced by the regular rate and rhythm of the P waves.

Complete heart block is identified by the atrioventricular (AV) dissociation (QRS independent of the P wave), while the normal QRS duration—despite AV dissociation—confirms the existence of a junctional rhythm.

A positive R-wave axis slightly above the upper limit of normal, as seen with this patient, constitutes a rightward axis.

Finally, the posteriorly directed forces in the anterior precordial leads with poor R-wave progression denote an anterior MI. **CR**