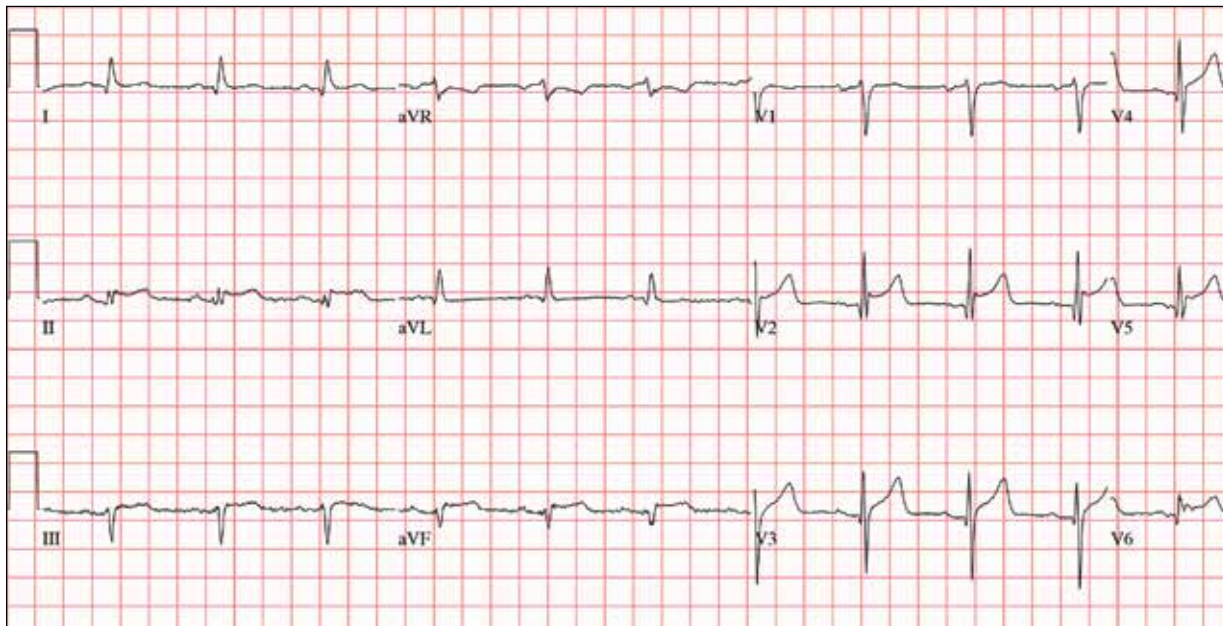


# Man Finds Worst Way to Get Out of Shoveling Snow



**A** 66-year-old man presents with ongoing chest pain of 45 minutes' duration followed by ventricular fibrillation. He was outside shoveling snow for about 30 minutes before his wife noticed that the sound of shoveling had ceased and her husband was nowhere to be seen. Upon investigation, she found him sitting on the porch, holding his chest and moaning, and she immediately called 911.

Paramedics arrived within 10

minutes. When the ambulance pulled into the driveway, the patient stood up and collapsed. The paramedics identified ventricular fibrillation and resuscitated him with a single shock from the automatic external defibrillator. The patient quickly regained consciousness and did not require further intervention.

According to the paramedics, the patient was in ventricular fibrillation for less than one minute. Oxygen and anti-angina therapy, started in the field, provided prompt relief of his chest pain.

Upon arrival to the emergency department, the patient is awake, stable, and fully cognizant of what happened and where he is. History taking reveals that he has experienced chest pain with exertion for several weeks, beginning around Thanksgiving, but did

not want to worry his family during the holiday season. All prior episodes stopped as soon as he ceased physical activity, unlike the one he experienced today.

The patient has a history of hypertension but no other cardiac problems. Surgical history is remarkable for a right rotator cuff repair and removal of a melanoma from his nose. Family history is positive for myocardial infarction (both parents and paternal grandfather) and type 1 diabetes (mother). The patient, an only child, has two adult sons, both of whom are in good health.

The patient is a retired attorney. He drinks approximately one bottle of wine per week, does not drink beer or hard liquor, and has never smoked. He has been quite active and runs 10K races three or four times per year. He denies rec-



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reational or herbal drug use.

He currently takes no medications—not even the hydrochlorothiazide and metoprolol prescribed for his hypertension, neither of which he has taken for the past year. He says he occasionally takes ibuprofen for “typical muscle aches and pains.” He has no known drug allergies.

The review of systems is unremarkable. The patient denies palpitations, shortness of breath, recent weight gain, and headaches.

Physical exam reveals a well-nourished, well-groomed man with a blood pressure of 160/98 mm Hg; pulse, 80 beats/min; respiratory rate, 18 breaths/min<sup>-1</sup>; O<sub>2</sub> saturation, 100% on 2 L of oxygen via nasal cannula; and temperature, 98.2°F. He reports his

weight to be 189 lb and his height, 6 ft 2 in. There are no unusual findings: His lungs are clear; his cardiac exam reveals no murmurs, rubs, gallops, or arrhythmia; the abdomen is soft and not tender; there is no peripheral edema; and he is neurologically intact.

An ECG, laboratory tests, and an echocardiogram are ordered. You review the ECG while the other tests are pending and note a ventricular rate of 80 beats/min; PR interval, 162 ms; QRS duration, 106 ms; QT/QTc interval, 390/426 ms; P axis, 51°; R axis, -20°; and T axis, 70°. What is your interpretation of this ECG?

#### ANSWER

The correct answer is normal sinus rhythm, acute anterior myo-

cardial infarction, and inferolateral injury.

A P wave for every QRS and a QRS for every P wave at a rate between 60 and 100 beats/min are indicative of normal sinus rhythm.

Acute anterior myocardial infarction is evidenced by the significant Q waves and ST elevations in leads I and V<sub>2</sub> to V<sub>4</sub> and inferolateral injury by ST elevations in limb leads II, III, and aVF and precordial leads V<sub>5</sub> and V<sub>6</sub>.

Subsequent cardiac catheterization revealed an occlusion of the proximal left anterior descending coronary artery, as well as significant lesions in the posterior descending artery and a marginal branch of the circumflex coronary artery. **CR**

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