Answer

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The most likely answer in this case is D, but the correct answer is B. Because of diagnostic uncertainty, this man underwent urgent cardiac catheterization. Angiography revealed 80% occlusion of the left main coronary artery resulting from the false lumen created by an ascending aortic dissection. An immediate transesophageal echocardiogram showed mild aortic insufficiency, a left ventricular ejection fraction of 40%, and diffuse anterior hypokinesis. The patient underwent emergency surgery to repair both aortic dissection and the aortic valve, and to perform bypass grafting to the left main coronary artery.

Aortic dissection causing myocardial infarction is rare; it occurs with a frequency of approximately 1 per 2 million people each year. Differentiating this from myocardial infarction due to coronary thrombosis is difficult without the benefit of cardiac catheterization and transesophageal echocardiography. Because most emergency physicians do not have access to these resources, it is imperative that we be familiar with the presenting signs and symptoms of aortic dissection.

Aortic dissection typically presents with sudden severe chest pain that is constant and reaches peak intensity immediately. Approximately 40% of patients have interscapular pain (mainly type B dissections). Limb ischemia occurs in about 10% of patients; stroke, syncope and other neurological deficits are found in about 7%. Physical examination reveals increased blood pressure in over 70% of these patients, an aortic regurgitation murmur in 50%, and asymmetric or absent pulses in 40%. The ECG will often show signs of left ventricular hypertrophy or left ventricular strain, and the chest x-ray (PA) is usually abnormal, showing a wide mediastinum and blurring of the aortic knob in about 80% of cases.

Sudden onset of severe pain was the only diagnostic clue in this case. The absent pedal pulses were more likely related to the decreased blood pressure, and all other findings were nonspecific for aortic dissection. In this case the chest x-ray did not reveal mediastinal abnormalities. Truly, a challenging diagnosis!

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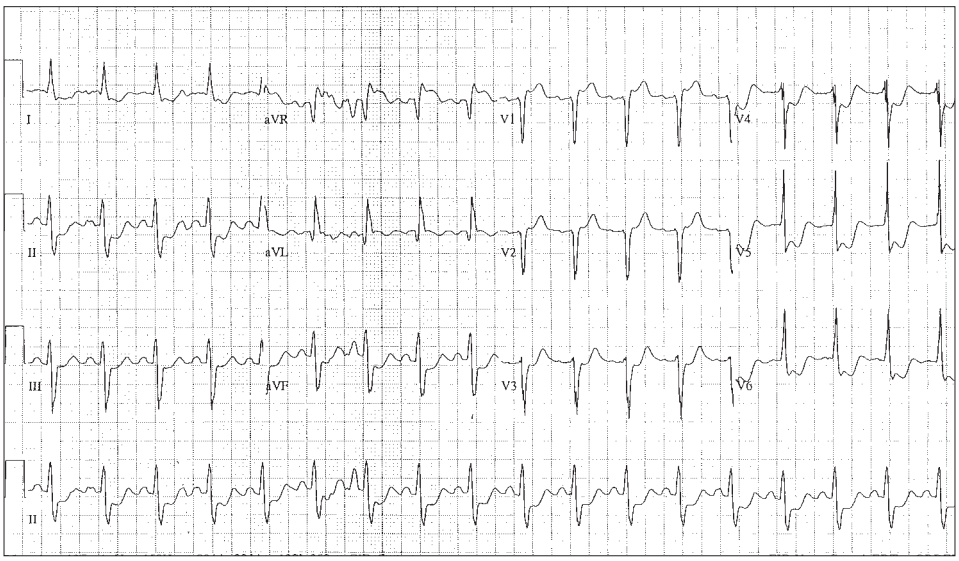

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