

Thrown From Motorcycle

A 57-year-old man is brought to your facility as a trauma code. He was riding a motorcycle on the highway, traveling approximately 45 to 50 mph, when the car in front of him abruptly stopped. He hit the car and was thrown from his bike. He believes he briefly lost consciousness but recalls emergency personnel tending to him.

On arrival, he is awake and alert, complaining of pain in his neck, left arm, and left lower leg. Medical history is significant for borderline hypertension and a previous accident that resulted in an emergency laparotomy.

Primary survey reveals stable vital signs: blood pressure of 157/100 mm Hg; heart rate, 110 beats/min; respiratory rate, 20 breaths/min; and O₂ saturation, 98% with supplemental oxygen. Pupils are equal and reactive; there are slightly decreased breath sounds on the left side.

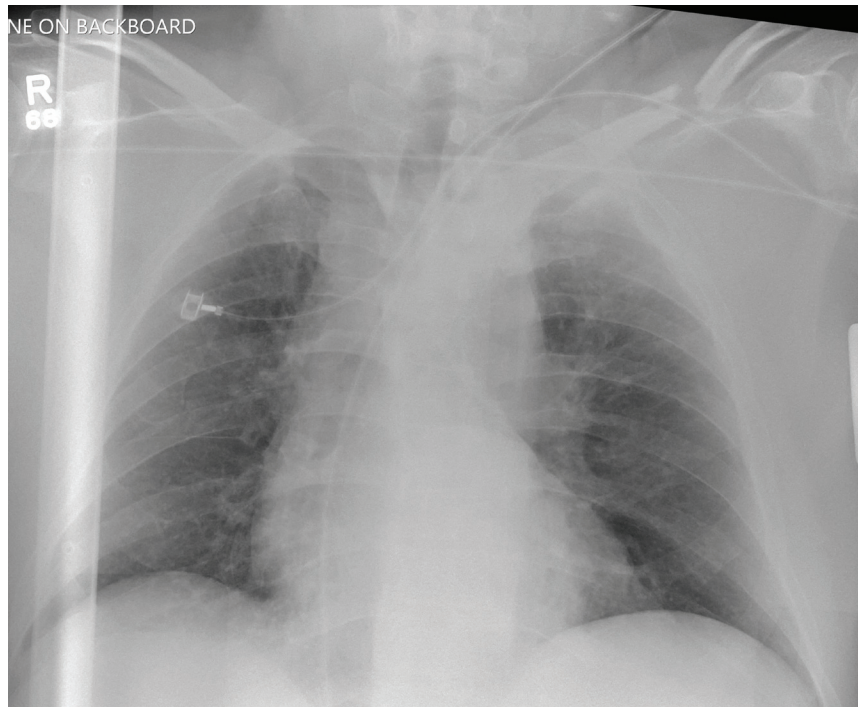


Abdominal exam appears benign. There is decreased mobility and pain in the patient's left upper and left lower extremities, al-

though no obvious deformity is noted.

Preliminary chest radiograph is obtained before the patient is sent for CT. What is your impression?

see answer on page 17 >>



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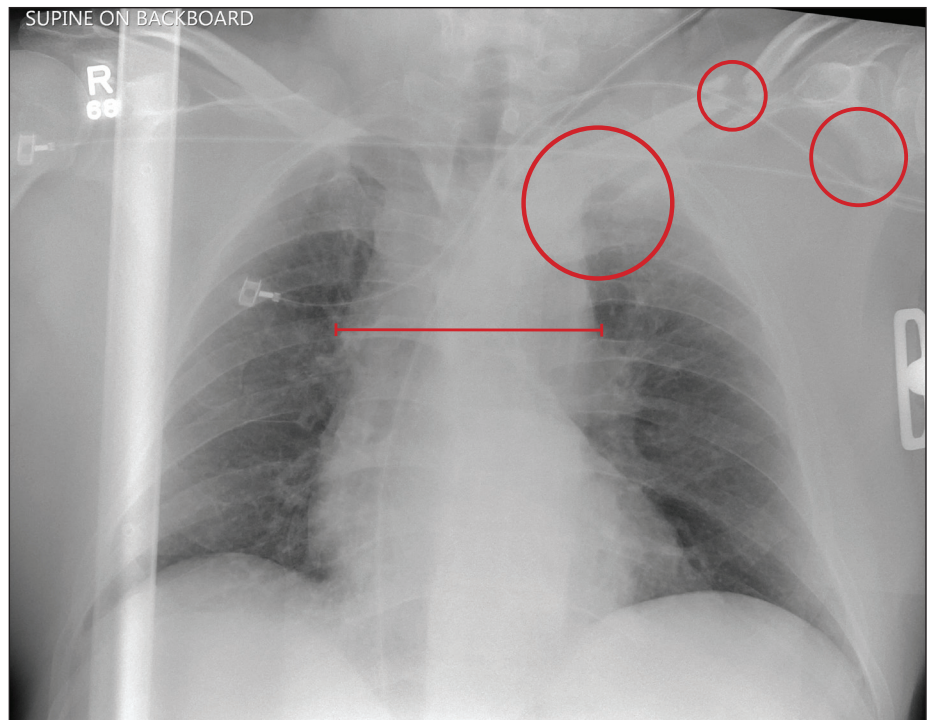
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ANSWER

Several findings are evident from this radiograph. First, the quality is slightly diminished due to the patient's size and artifact from the backboard. The patient's mediastinum is somewhat widened, which is concerning for possible occult chest/vascular injury. There is some haziness within the left apical region suggestive of a hemothorax; no definite pneumothorax is seen. The left clavicle is fractured and displaced, and the left scapula is fractured as well. **CR**



ECGCHALLENGE

murmurs, rubs, or gallops. The neck veins are not distended, and there is no peripheral edema. His lungs are clear to auscultation, and the remainder of his physical exam is unchanged from his previous visit.

Given the change in his heart rhythm since his previous visit, you order an ECG and note the following: a ventricular rate of 44 beats/min; PR interval, not measured; QRS duration, 106 ms; QT/QTc interval, 484/413 ms; P axis, 65°; R axis, 11°; and T axis, 6°. What is your interpretation of this ECG?

ANSWER

The ECG reveals sinus bradycardia with second-degree atrioventricular (AV) block (Mobitz I), also known as *Wenckebach block*.

Mobitz I heart block often occurs with reversible reasons of conduction block at the level of the AV node. While the P-P intervals remain constant, conduction fatigue within the AV node results in the P-R interval becoming progressively longer, until the AV node completely blocks conduction from the atria to the ventricles. The process then re-

peats itself in a pattern of P to QRS groups.

In this case, there are three P waves for every two QRS complexes, resulting in a 3:2 pattern. The PR interval is longest prior to the blocked QRS and shortest immediately after it. The diagnosis of sinus bradycardia results from a constant P-P interval of 58 beats/min.

Further questioning of the patient revealed that he had inadvertently doubled his dose of metoprolol. Correcting this resulted in the return of normal sinus rhythm. **CR**