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IMAGES IN INTERVENTION

Noncardiac Pathology Exposed at Coronary Angiography for ST-Segment Elevation

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A 66-year-old female smoker with a background history of hypertension presented via the primary percutaneous coronary intervention pathway for suspected anterior ST-segment elevation myocardial infarction (Fig. 1). She had a several-day history of upper abdominal pain, with sudden worsening and radiation to the chest and back, associated with sweating and vomiting.

On arrival to the cardiac catheterization suite, she was tachycardic and hypertensive, requiring intravenous high-dose morphine for symptom control. Brief examination revealed normal cardiovascular findings and a tender upper abdomen with bloating. A trolley side transthoracic echocardiogram showed normal left ventricular systolic function and no significant valvular abnormality, but interestingly almost complete collapse of the left atrium (Fig. 2). This was thought to be possibly related to image acquisition limitations in the acute setting. We proceeded to coronary angiography via the right radial artery in the best interests of the patient in light of the electrocardiographic changes and no contraindications.

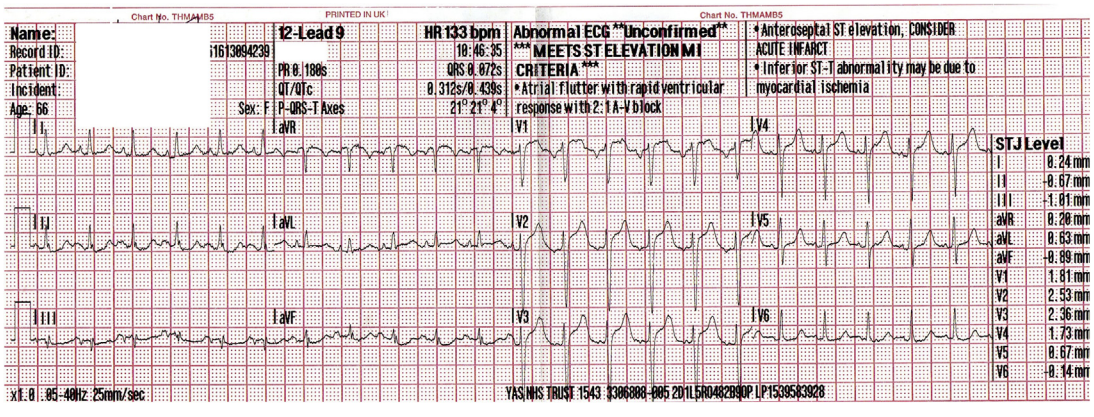

Figure 1. Electrocardiogram

Ambulance recording of 12-lead electrocardiogram demonstrating anterior ST-segment elevation, thus leading to activation of the local primary percutaneous coronary intervention pathway and subsequent presentation to our center's cardiac catheterization suite.

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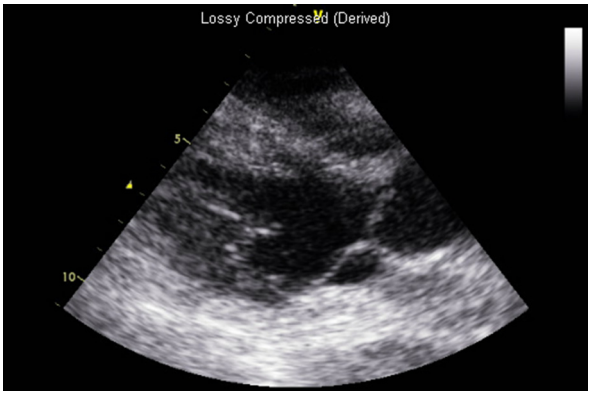

Figure 2. Transthoracic Echocardiogram

Parasternal long-axis view on a transthoracic echocardiogram as part of routine pre-primary percutaneous coronary intervention assessment. The left ventricle and aortic root are visualized, but the most striking abnormality is the collapse of the left atrium, which could not be seen in any view or probe angulation.

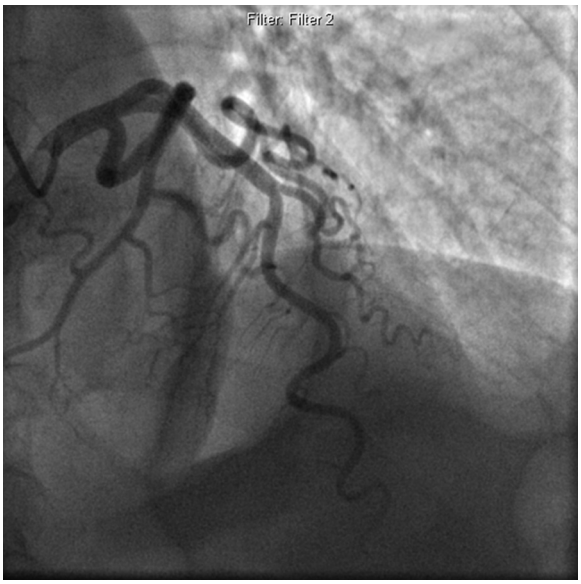

Figure 3. Coronary Angiogram: Posteroanterior Cranial

Posteroanterior cranial view showing diagnostic images of the normal left coronary system. Of particular interest in the context of anterior electrocardiographic changes is the unremarkable left anterior descending artery. Also apparent is the abnormal cardiac silhouette, raising suspicion of air in the mediastinum.

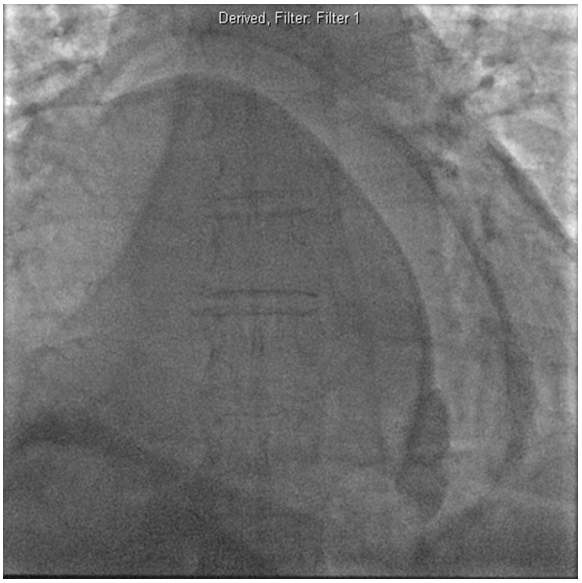

Figure 4. Coronary Angiogram: Posteroanterior

Posteroanterior view clearly revealing a rim of air around the cardiac border.

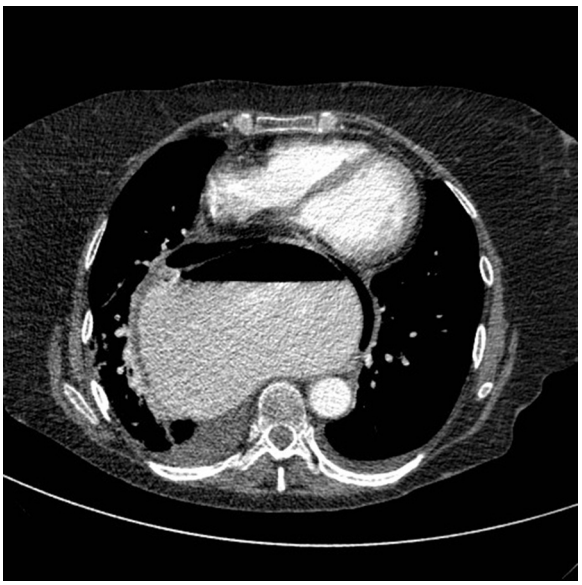

Figure 5. Computed Tomography

A computed tomography scan, axial view, showing a large fluid-filled paraesophageal hernia and air in the mediastinum. Confirmation of the extrinsic compression of the left atrium, correlating with previous transthoracic echocardiographic findings.

An initial angiographic image in the posteroanterior cranial view confirmed a normal left coronary artery system but abnormal cardiac silhouette (Figs. 3 and 4). Computed tomography was arranged, revealing a perforated volvulus of the stomach on a background of a paraesophageal hernia (Fig. 5).

She was transferred for urgent laparoscopic reduction of the incarcerated perforated gastric volvulus and repair of the stomach and hiatus. She is recovering well.

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