

Image in cardiology

Myocardial Hypoperfusion in Acute Aortic Dissection

Hipoperfusión miocárdica en la disección aórtica aguda

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Figure.

We report a case of myocardial hypoperfusion secondary to acute aortic dissection with coronary artery involvement, that was exceptional in that it was detected by computed tomography. The patient was a 55-year-old man with no relevant antecedents except for hypertension. He sought urgent medical attention in our center due to intense midthoracic and abdominal pain, with signs of poor peripheral perfusion and pulse differentials. An electrocardiogram revealed the presence of sinus rhythm with ST elevation in leads I, aVL, V₁, and V₂, and mirror images of these changes in II, III, and aVF. Given that we suspected acute aortic syndrome with coronary artery involvement, we performed a thoracoabdominal computed tomography scan with prospective ECG-triggered acquisition, which disclosed the presence of a DeBakey type I aortic dissection (Figure A). The entry tear was located at the level of the brachiocephalic trunk, with retrograde extension to the aortic root and dissection of the left main coronary artery ostium, without affecting the right coronary artery (Figure B, asterisk). There was no evidence of stenotic atherosclerotic lesions in the coronary arteries. In the true lumen of the left main coronary artery, we observed thrombosis secondary to extrinsic compression produced by the false lumen (Figure B, arrow); these findings were confirmed intraoperatively. In the left ventricular myocardium, there was extensive hypodensity in the left main coronary artery-dependent segments (Figures C and D, arrows); myocardial infarction was confirmed by analytical means, and the electrocardiogram revealed extensive anterolateral akinesia.

The patient underwent surgery for replacement of the ascending aorta and aortic arch (elephant trunk procedure) with resuspension of the aortic valve commissures. The postoperative course had a fatal outcome due to heart failure and sepsis refractory to treatment.

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