Acute Aortic Intimal Layer and Valvar Apparatus Prolapse Into the Left Ventricle

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A 73-year-old hypertensive man was referred to our institution for urgent coronary angiography because of typical chest pain, slight increase in troponin level, and ECG signs of inferolateral subendocardial ischemia. An aortic systolic murmur was clearly audible, and pulses were present ubiquitously. The patient was referred for urgent coronary artery angiography, but because of an unsuccessful attempt to cannulate both coronary ostia, an aortogram was obtained in the right anterior oblique projection. A massive intimal flap extending from the left subclavian artery to the entire aortic annulus was observed clearly (Figure 1, left, arrow). The intimal flap and the disrupted aortic valve were deeply prolapsing into the left ventricle (Figure 1, right, arrow and interrupted line; Movie I in the online-only Data Supplement), causing massive aortic valve insufficiency. On the immediate computed tomography scan, massive dissection of the entire ascending aorta and annulus was confirmed (Figure 2A and 2B, arrow) as well as a huge intimal layer flap prolapse into the left ventricle (Figure 2C, arrow). The valvar apparatus prolapse was also confirmed by the preoperative echocardiogram (Figure 3A and 3B and Movies II through IV in the online-only Data Supplement). The patient was referred for emergent aortic surgical repair, which was successfully accomplished.

Disclosures

None.

Figure 1. Left, Aortic intimal flap on aortogram in right oblique anterior projection. White arrows indicate the intimal layer. Right, Appearance of aortic intimal layer prolapse into the left ventricle with massive aortic insufficiency. White arrows indicate the valve apparatus prolapsing in the left ventricle.
Figure 2. Dissection of the ascending aorta and aortic annulus (A and B) with prolapse into the left ventricle (C) as observed on emergent angiographic computed tomography scan.

Figure 3. Prolapse of the entire aortic valve apparatus into the left ventricle as observed on preoperative transthoracic echocardiography on 4-chamber view (A) and subcostal view (B).