Clinical Vignette

Acute proximal aortic dissection penetrating into left atrium with a hypermobile thrombus

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A 42-year old patient with suspected Marfan syndrome was admitted for examination of resting chest pain occurring intermittently for 1 week. Physical examination was completely normal with a normal blood pressure and present symmetrical upper extremities pulsation. ECG showed 2 mm ST-elevation in II, III, aVF, V4–6 leads. Selective coronaryography was performed with a negative finding. On the basis of negative troponin test, myocardial infarction and myocarditis were excluded. Trans-thoracic echocardiography showed no pericardial effusion, but a spherical formation in left atrium (LA) adjacent to interatrial septum suspicious of myxoma. Subsequently transesophageal echocardiography (TEE) revealed a proximal aortic dissection. This finding was confirmed by a 64-slice CT angiography of aorta. Bentall procedure was successfully performed.

Panel A. Aortic dissection with a systolic flow in the true lumen (TL) of ascending aorta on TEE. A continual flow can be seen in the false lumen (FL) in which an intraluminal thrombus (T) is evident.
Panel B. A hypermobile double lobar thrombus connected to the penetration canal (P) heading to left atrial roof.
Panel C. Continuous turbulent jet heading from the aorto-left atrium fistula canal (P) to left atrial roof.
Panel D. Double intimal tear in descending aorta.
Panel E. A reconstructed three-dimensional CT image using volumetric rendering method. An evident aneurysmatic dissection of ascending aorta with a rupture of aortic adventitia and penetration into left atrium (arrow).
Panel F. An extensive thoracic aorta aneurysm dissection penetrating into left atrium. A tricuspid aortic valve (Ao), left ventricle (LV), and an intimal line (I) separating true aortic lumen (TL) from false lumen (FL) can also be noticed. Hypodense masses with an irregular margin lining the edges of a proximal part of a false lumen are thrombi (T) penetrating into the left atrium (LA).
Panel G. Short axis CT image of ascending and descending aorta.
Panel H. Distal part of dissection in area of right common iliac artery (white arrow).
Panel I. A view of a false lumen with a noticeable penetration opening into left atrium. The arrows are pointing towards its CT angiography and TEE correlates. The true aortic lumen is compressed by a suction tube.