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CASE IMAGE

Ischemic stroke as the presentation of pseudoaneurysm in the left main coronary artery graft site in a patient with history of the Bentall operation

Bentall operasyonu geçirmiş hastada sol ana koroner arter greftinde psödoanevrizma belirtisi olarak iskemik inme

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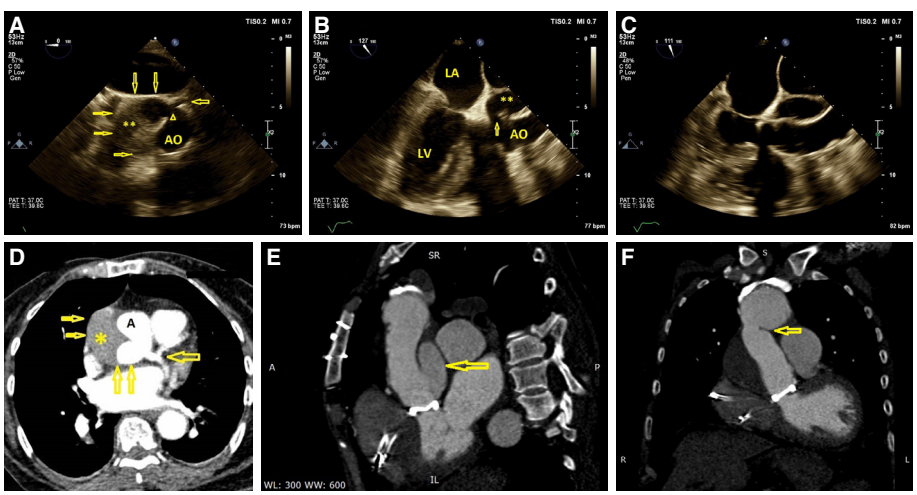
A 62-year-old woman who had suffered an ischemic stroke 5 days before admission was referred to our hospital for further evaluation. She had undergone Bentall procedure (composite graft no. 21) due to acute dissection (Type A) in a background of hypertension 3 years previously, as well as pacemaker implantation due to the postoperative occurrence of a prolonged complete atrioventricular block. Other than right hemiparesis, the other findings of her physical examination were unremarkable. Electrocardiography showed no significant rhythm abnormality. Transthoracic echocardiography (TTE) demonstrated moderate left and right ventricular systolic dysfunction and moderate tricuspid regurgitation with acceptable mechanical bileaflet aortic valve hemodynamics. Fluoroscopy confirmed normal motion of the leaflets. The source of the embolus was further evaluated via transesophageal echocardiography (TEE), revealing a large echo-free space (60×50 mm), which was partially filled with a thrombosis in the posterior wall of the aortic composite graft and was connected to the aortic composite graft through a defect (11 mm). The left main coronary artery originated from this echo-free space. Valvular thrombosis was not detected in either TTE or TEE images. These findings were compatible with a pseudoaneurysm in the left main coronary artery graft site in the aortic composite graft (Fig. A-C, Video 1*). Computed tomography angiography imaging of the aorta demonstrated this pathology and showed that the brain's supplying arteries were normal (Fig. D-E). Unfortunately, the patient refused corrective surgery. In the assessment of patients with a history of the Bentall operation who are affected by embolic events, both valvular thrombosis and surgical complications (e.g., pseudoaneurysm of the coronary artery graft site) should be considered carefully.



Figures– (A) A cross-section of the aortic tube graft as seen with transesophageal echocardiography illustrates a large, echo-free space, partially filled with a thrombosis and connected to the aortic composite graft through a defect. The left main coronary artery originates from this space, suggesting a pseudoaneurysm in the left main coronary artery graft site in the aortic composite graft. (**) Indicates the thrombosis in the lumen of the pseudoaneurysm. The left and superior arrows indicate the border of this large pseudoaneurysm; the right arrow indicates the left main coronary artery, which originates from the pseudoaneurysm, and the arrow head indicates the orifice of the pseudoaneurysm. **(B)** A transesophageal echocardiography image showing a longitudinal section of the aortic tube graft. (**) Indicates the thrombosis in the lumen of the pseudoaneurysm, and the arrow designates the orifice of the pseudoaneurysm. **(C)** A longitudinal view of the aortic tube graft demonstrates the size and length. AO: Aortic tube graft; LA: Left atrium; LV: Left ventricle. **(D)** The transverse axis view (chest window) shows a large space, partially filled with a thrombosis and connected to the aortic composite graft through a defect. The left main coronary artery originates from this space, suggesting a pseudoaneurysm in the left main coronary artery graft site in the aortic composite graft. The black portion (A) is the aortic composite graft. (**) Indicates the thrombosis in the lumen of the pseudoaneurysm; the left and inferior arrows indicate the border of this large pseudoaneurysm, and the right arrow indicates the left main coronary artery, which originates from the pseudoaneurysm. **(E)** The coronal axis view shows the bileaflet aortic valve prosthesis and the pseudoaneurysm of the aorta (arrow); **(F)** The sagittal axis view reveals the anastomosis site of the aortic tube graft to the proximal aortic arch (arrow). Note that the size of the aortic tube graft is the same for the entire length. **Supplementary video files associated with this presentation can be found in the online version of the journal.*