Pseudoaneurysm of the Ascending Aorta With Perforation Into the Left Atrium Presenting as Acute Heart Failure

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Figure 1. Trans-esophageal echocardiogram. (A) 2-D longitudinal view showing a pseudoaneurysm (P) of the ascending aorta (Ao) attached to the left atrium (LA). (B) Color Flow Doppler imaging showing shunt flow (white arrow) from the pseudoaneurysm into the LA. AoV, aortic valve; LV, left ventricle; RA, right atrium.
A 50-year-old man was admitted to hospital due to sudden chest pain and dyspnea. He had undergone graft replacement of the ascending aorta and aortic arch with the elephant trunk technique for acute aortic dissection (Stanford type A) 4 years previously. The proximal end of the graft was sutured to the proximal aorta after the use of gelatin-resorcin-formalin glue for false lumen. Chest X-ray showed a severe pulmonary congestion. Transthoracic echocardiography indicated hyperkinetic left ventricular wall motion but no regurgitation of mitral and aortic valves; a continuous murmur in the left lower sternal border, however, was heard. On transesophageal echocardiography the pseudoaneurysm was located behind the prosthetic graft and the native aortic root, and was fistulated into the LA through a perforation on the top of the LA. The perforation of the LA was repaired using 4-0 mattress sutures with Teflon felt pledgets. Teflon felt pledgets were used to reinforce the anastomosis of the proximal stump. Aortic root re-implantation using a Gelweave 26-mm graft was then performed. This patient survived without any complications.

Long-term follow-up has shown that false or true aneurysm formation is not necessarily infrequent in patients who receive aortic replacement using prosthetic graft for aortic dissection. Rupture of false or true aneurysm into the cardiac chamber and fistula formation after surgery are rare late-phase complications. Although there is a case report of pseudoaneurysm of the ascending aorta with aorto-right atrium fistula, there are no case reports on fistulous communication to the LA (such as in the current case), presenting as severe acute heart failure.

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References