

# Double giant pseudoaneurysms of the aortic root and arch after ascending aorta replacement

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A 70-year-old woman presented to our hospital with chest pain and dyspnea. She had received an ascending aorta prosthetic graft replacement for acute aortic dissection in another hospital 13 years before her admission to our hospital. Computed tomography revealed double giant aneurysms arising from the aortic root and arch (Cover and A). The root aneurysm (85 mm) and the arch aneurysm (102 mm) grew considerably, and the arch aneurysm was in the retrosternal location, causing erosion into the sternum (B). The arch aneurysm was compressing respiratory structures and the root aneurysm compressed the right heart (Cover). A transthoracic echocardiogram showed moderate aortic regurgitation and severe right ventricular outflow tract obstruction (peak pressure gradient, 96 mm Hg). An urgent operation was performed. Extracorporeal circulation was started by cannulation of the bilateral subclavian arteries, femoral artery, and femoral vein. The body temperature was cooled to 28°C before resternotomy in case of circulatory arrest. An endoluminal occlusion balloon catheter was placed in the descending aorta percutaneously from the femoral artery before the resternotomy. As the sternotomy resulted in inadvertent rupture of the arch aneurysm, circulatory arrest was performed and cerebral perfusion was established by direct antegrade perfusion from the left carotid artery and perfusion from the bilateral subclavian arteries after occluding the orifices of the brachiocephalic and left subclavian arteries with balloons. The descending aorta was also occluded with a balloon catheter and lower body extracorporeal circulation was restarted by femoral-femoral bypass. The proximal and distal sites of the ascending aortic anastomosis were disrupted, and the old graft was completely resected. Aortic root and arch replacement were performed. The postoperative course was uneventful, and the postoperative computed tomography showed satisfactory exclusion of the pseudoaneurysms (C).

### DISCUSSION

A pseudoaneurysm occurring after the replacement of the ascending aorta with a vascular prosthesis is defined as a total or partial dehiscence of the prosthesis from the aortic wall.<sup>1</sup> To our knowledge, this is the first reported case of postsurgical double pseudoaneurysms arising from the aortic root and arch. As the surgical treatment is complex, and to manage an inadvertent rupture of a pseudoaneurysm, we consider that a circumspect planning of the surgical strategy for resternotomy and brain protection is invaluable in treating this condition.

### REFERENCE

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