Right pulmonary artery obstruction due to anastomotic pseudo-aneurysm 23 years after implantation of an aortic prosthesis

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A 71-year-old man developed worsening dyspnoea and acute chest pain 23 years after surgery for aortic dissection. Resecting an anastomotic pseudo-aneurysm obstructing the right pulmonary artery (Fig. 1) and prosthetically replacing the ascending and arch aortae recovered the pulmonary perfusion (Fig. 2) and caused the symptoms to disappear.

Fig. 1. Preoperative images. (a) Chest X-ray. (b) Pulmonary scan with Tc-99m-MAA shows absence of right lung perfusion. (c) CT image with intravenous contrast shows obstructed right pulmonary artery due to pseudo-aneurysm behind a prosthetic graft that had been implanted 23 years earlier for acute aortic dissection. These findings were accompanied by elevated D-dimer (38.2 mcg dl⁻¹) and dyspnoea over a period of 2 years that had rapidly deteriorated over the past month, followed by sudden pain in the right chest. Emergency surgery was thus required to recover right lung perfusion. Clinical and radiological signs of infection were absent.

Fig. 2. Postoperative images. (a) Chest X-ray. (b) Pulmonary scan with Tc-99m-MAA shows recovered right lung perfusion. (c) Cross section at same level of CT image shown in Fig. 1. Pseudo-aneurysm has disappeared and right pulmonary artery stenosis is relieved. The false lumen of the descending aorta was thrombosed after replacing ascending and arch aortae with a branched Dacron graft, because an elephant trunk was placed into the true lumen, from which all of major visceral vessels and Adamkiewicz artery branched. No complications or symptoms developed and D-dimer concentration decreased to 6.2 mcg dl⁻¹.