A 62-year-old hypertensive male with previous (4 years before) cardiac surgery (A Bentall—De Bono with ascending aorta–aortic arch reconstruction due to Type A acute aortic dissection) presented with prosthetic aortic valve Staphylococcus aureus endocarditis. Diagnosis and follow-up was performed with transoesophageal echocardiography. Cardiac magnetic resonance (CMR) was performed in order to rule out possible periannular involvement. CMR was performed on a 1.5T scanner with retrospective electrocardiographic gating. Gradient echo (steady-state free precession) sequence as well as T1- and T2-weighted spin echo sequence of the ascending aorta (AA) and 3D aortic angiography was performed. An AA pseudoaneurysm was diagnosed (figures) and the patient underwent new cardiac surgery, with longitudinal opening and cleaning of the aortic pseudoaneurysm. A distal graft anastomosis dehiscence was observed, with resection of the aortic graft and interposition of a new Dacron tubular graft between the valve conduit and the aortic arch.

Panel A. Gradient echo sequence in axial plane. Black line arrow points true AA lumen. Pointed black arrow shows AA pseudoaneurysm cavity. Dashed black arrow shows an abnormal 1 cm semi lunar collection anterior to the AA tube with intermediate signal intensity. White arrows point pulmonary artery (big arrow) and superior vena cava (small arrow).

Panel B. T1-weighted spin echo in the axial plane showing anterior high signal intensity collection suggestive of hematic content (line arrow) as well as posterior pseudoaneurysm cavity with slow flow/thrombus (dashed arrow).

Panel C. Same axial plane T2-weighted spin echo sequence.

Panel D. Coronal gradient echo sequence showing the AA true aortic lumen (point black arrow), the aortic prostheses (line black arrow) and the AA pseudoaneurysm (white arrow) extending from ~3 cm above the aortic prosthesis plane to the distal portion of the AA. Bottom panel: two consecutive acquisitions of 3D angiography were performed.

Panel E. Maximum intensity projection (MIP) first 3D angiography reconstruction in the axial plane showing enhancement of the true AA lumen (line arrow). AA pseudoaneurysm shows no enhancement (point arrow) as well as the descending aorta false lumen (dash arrow).

Panel F. MIP first 3D angiography reconstruction in the coronal plane where true (line arrow) aortic lumen enhancement and non-enhanced false cavity (point arrow) lumen are shown.

Panel G. MIP second 3D angiography reconstruction in the axial plane showing enhancement of both the true aortic lumen (line arrow) and the pseudoaneurysm cavity (point arrow). The descending aorta false lumen is enhanced as well (dash arrow).

Panel H. MIP second 3D angiography reconstruction in a coronal plane showing the enhanced pseudoaneurysm (point arrow), the aortic lumen (line arrow) and the aortic prostheses (dash arrow). No clear point of graft dehiscence was identified. Brachiocephalic trunk, left common carotid artery and left subclavian artery emerged from the true lumen.

Supplementary data
Supplementary data are available at European Journal of Echocardiography online.