Pseudoaneurysm of the non-coronary sinus of Valsalva mimicking an interatrial septal mass

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A 72-year-old female underwent cardiac computed tomography (CCT) for chest pain. This showed unobstructed coronary arteries, but revealed a mass protruding within the interatrial septum (Panels A–C) possibly originating from the non-coronary sinus of Valsalva. The patient was referred for further evaluation with cardiovascular magnetic resonance (CMR). CMR showed a crescent-shaped mass around the non-coronary sinus of Valsalva (Panels D–F) with intermediate signal intensity on cine images (see Supplementary data online, Video S1) and uptake of contrast on first-pass perfusion images (see Supplementary data online, Video S2). When asked whether she had undergone previous invasive procedures, the patient reported previous invasive coronary angiography 12 years ago and noted that she experienced chest pain during the procedure due to coronary spasm. She also reported that she had undergone another CCT in 2007. Upon review of the CCT in 2007, the same crescent-shaped mass was noted without any significant difference in size or appearance.

We believe that this is an acquired pseudoaneurysm of the non-coronary sinus of Valsalva. Pseudoaneurysms of Valsalva sinuses are usually post-traumatic. In our case, a small tear in the intima of the non-coronary sinus probably occurred during the invasive coronary angiogram 12 years ago and that iatrogenic complication resulted in a localized pseudoaneurysm (Panel F—white arrow and see Supplementary data online, Video S3). Given that there is no remaining connection and no change in the size of the pseudoaneurysm over the past 7 years and the aortic valve was functioning well, we followed conservative management. The patient is asymptomatic almost a year after the CMR scan.

Contrast-enhanced CT images (upper row, Panels A–C) showing a crescent-shaped mass (black arrow) around the non-coronary sinus of Valsalva protruding within the interatrial septum. Compared with the non-contrast CT images (not shown), there is contrast uptake within the mass (Hounsfield units 67 ± 20). CMR images (lower row, Panels D–F) showing the mass (Panel D is an still from an steady-state free precession (SSFP) cine; Panel E is a T1-weighted turbo spin echo image). The image on Panel F is a still of an SSFP cine acquired post gadolinium contrast and shows the site of the possible intimal tear (white arrow) in the aortic wall.

Supplementary data are available at European Heart Journal – Cardiovascular Imaging online.