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41 Years after Björk-Shiley valve implantation: advanced preparation of a giant root pseudoaneurysm entrapping the right coronary artery

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A woman (64 years old) received a Björk-Shiley prosthesis after aortic valve endocarditis and presented with a pseudoaneurysm as an incidental finding 41 years later. During angiography, the right coronary artery (RCA) could not be perfused. Computed tomography confirmed a trapped RCA, located between the right outflow tract and the aortic aneurysm (Figs 1 and 2).



Figure 1: (A) Computed tomography shows the pseudoaneurysm arising from the accronary sinus (3×4 cm). At the annular level in the aortic position is a perfectly functioning Björk–Shiley prosthesis (dp mean 6 mmHg transvalvular). (B) 3D computed tomography demonstrating the aneurysm at its longest axis of 7.9 cm (aster-isk). Arrows mark the course of the distal right coronary artery, which can be seen between the aneurysm and the right outflow tract.



Figure 2: (A) Operating field with the prepared pseudoaneurysm and the right coronary artery (arrows). The small picture shows excellent flow at ~82 ml/min and a pulsatile index of 0.9. (B) Asterisk marks the origin of the paravalvular leakage arising from the acoronary sinus.