Covered stents in giant coronary artery aneurysm

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A 71-year-old woman presented with stable angina pectoris. On coronary angiography, a giant aneurysm of the left anterior descending artery (LAD) measuring 70 × 40 mm was seen. The aneurysm was lined with thrombus (Panel A: aneurysm indicated by large arrows and lumen indicated by small arrows; see Supplementary material online, Video S1). Proximal and distal to the aneurysm, the LAD was severely stenosed, with limited flow in its apical part.

The aneurysm was excluded using pericardium-covered stents. After balloon dilatation, proximal and distal bare-metal stents were used as an anchor for three interconnected equine pericardium-covered stents. This resulted in restoration of flow in the distal LAD.

After 3 months of follow-up, the patient was symptom free. Coronary angiography (Panel B; see Supplementary material online, Video S2), computed tomography (CT) angiography (Panel C), and the three-dimensional CT reconstruction (Panel D) showed exclusion of the aneurysm and unobstructed flow through the stents (Panels B–D: aneurysm indicated by large arrows and stents indicated by small arrows).

Supplementary material is available at European Heart Journal online.

Panel A. Coronary angiography showing giant coronary artery aneurysm in the left anterior descending artery. The aneurysm is indicated by large arrows and the lumen is indicated by small arrows.

Panel B. Coronary angiography showing exclusion of the coronary artery aneurysm and restoration of flow in the distal left anterior descending artery 3 months after placement of pericardium-covered stents. The aneurysm is indicated by large arrows and the stents are indicated by small arrows.

Panel C. Computed tomography angiography 3 months after intervention. The aneurysm is indicated by large arrows and the stents are indicated by small arrows.

Panel D. Three-dimensional computed tomography reconstruction 3 months after intervention, showing the aneurysm as well as the covered stents. The aneurysm is indicated by green arrows and the stents are indicated by the red arrow.

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