CARDIOVASCULAR FLASHLIGHT

Multislice computed tomography after stent implantation for aortic coarctation

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A 14-year-old male with a severe coarctation of the aorta (CoA) diagnosed by magnetic resonance imaging was referred to our hospital for an attempted stent implantation. Cardiac catheterization and aortography revealed a severe CoA distal to the left subclavian artery measuring 2 mm at its narrowest diameter (Panel A). Under fluoroscopic guidance, a 4004 Palmaz stent was successfully implanted over a 12 mm balloon across the CoA. The stent was further dilated to final diameter of 17 mm using an 18 mm balloon. A post-procedural biplane aortography showed an excellent result with the good stent position and no evidence of aneurysm formation (Panels B and C). However, a multislice computed tomography performed using a dual scanner 64-detector, 24 h after the procedure revealed an aortic aneurysm measuring 0.5 × 0.8 cm in the stented area (Panel D). A week later, the patient was treated successfully with the implantation of a covered stent across the area of the aortic aneurysm (see Supplementary material online, Video).

Biplane aortography, the ‘gold standard’ imaging modality for the evaluation of patients with CoA after stent treatment, can miss important acute procedural aortic aneurysms. These aneurysms are potentially life threatening as they may rupture if they are not treated early with implantation of covered stents. Multislice computed tomography should be used early after stent implantation in patients with CoA to evaluate the effects of intervention on the aortic wall. Magnetic resonance imaging is of limited value in CoA after stent implantation, since the stent-related ‘shielding’ artefacts prevent detailed evaluation of the aorta within the stented aortic area.

Supplementary material
Supplementary material is available at European Heart Journal online.