

IMAGE FOCUS

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Iatrogenic coronary ostial obstruction and stenosis following aortic valve replacement: visualization with cardiac computed tomography and intravascular ultrasound

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In April 2019, a 66-year-old female patient presented with recurrent shortness of breath. An echocardiography examination revealed severe aortic stenosis with severe calcifications. Preoperative coronary angiography demonstrated no significant stenosis of the coronary arteries ([Supplementary data](#) online, *Videos S1–S3*). A 21-mm porcine bioprosthetic aortic valve (Mosaic, Medtronic) was used to replace the native valve. Two months later she experienced atypical chest pain. On 23

October 2019, admission electrocardiogram revealed ST-segment elevation in lead aVR lead and ST depression in leads II, III, aVF, and V4–V6, and a troponin I level of 1.370 ng/mL. Urgent multidetector computed tomography (MDCT) revealed significant left main (LM) stenosis with a circular high-density structure (*Panels A–C* and [Supplementary data](#) online, *Video S4*). The heart team reviewed the images and recommended percutaneous coronary intervention (PCI) for the treatment of the patients. Urgent coronary angiography revealed the presence of critical ostial stenosis (99%) of the LM (*Panels D and E* and [Supplementary data](#) online, *Videos S5–S7*) and no atheroma in other coronary vessels. Based on MDCT findings, intravascular ultrasound (IVUS) was performed to identify the lesion. IVUS demonstrated localized severe LM stem stenosis with a massive fibrous plaque and LM ostial obstruction with the metal strut (*Panel F* and [Supplementary data](#) online, *Video S8*). A drug-eluting stent (3.5 mm × 18 mm, LePu) was successfully implanted. Post-PCI angiography and IVUS confirmed well-apposed stent struts in the LM without obstruction (*Panels G and H* and [Supplementary data](#) online, *Videos S9 and S10*). The patient remains asymptomatic and angina-free at the 6-month follow-up.

[Supplementary data](#) are available at *European Heart Journal - Cardiovascular Imaging* online.

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