Coronary graft angioplasty guided by MSCT: an unexpected ostial stent deformation

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A 76-year-old man with a history of two-vessel coronary artery bypass grafting was admitted with recurrent angina. The proximal anastomosis of the left anterior descending (LAD) bypass grafting was directly stented with a bare-metal stent 2 years before.

Conventional angiography was performed, but selective LAD bypass catheterization failed. In this case of aortic stent protrusion, repeat catheterization of the ostium was difficult. Moreover, this bypass was located at the level of the aortic arch. A multi-slice computed tomography (MSCT) was performed (Panel 1) and revealed an ostial stent deformation (star) with a significant in-stent restenosis (arrow) of the LAD bypass proximal anastomosis. MSCT was able to identify an ostial stent deformation which can explain the catheterization failure.

Then, the choice and the orientation of the catheter were guided by the MSCT 3D reconstructions (Panel 2, see Supplementary data online, Video S1). Coronary angiography confirmed a severe in-stent restenosis (Panel 3, arrow) of the proximal anastomosis. After predilatation, a drug-eluting stent was implanted with aortic protrusion and an angiographically adequate result (Panel 4). At 1-year follow-up, a repeat MSCT revealed an ideal stent position with aortic protrusion, an adequate expansion and no restenosis (Panels 5 and 6, see Supplementary data online, Video S2).

In the case of restenosis and aortic stent protrusion, repeat catheterization of the ostium was challenging. MSCT was a valuable tool for aorto-ostial lesion analysis and helped the operator to identify the catheterization difficulties.

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

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