

1038 Successful revascularization of RCA-CTO was effective for global left ventricular function in a diabetic patient with post coronary artery bypass grafting

A 55-year-old man with symptoms of CCS III angina pectoris was admitted to our hospital. He had risk factors of hypertension and uncontrolled diabetes mellitus. He underwent coronary artery bypass grafting (CABG) 13 years ago for 3-vessel disease including right coronary artery (RCA) chronic total occlusion (CTO) and inferior old myocardial infarction. He was hospitalized with heart failure and worsening angina a year ago and angiography was performed at that time. As a result, a left internal thoracic artery (LITA)-left anterior descending artery (LAD) bypass and a radial artery graft (RAG) to diagonal branch bypass were patent, while saphenous vein graft (SVG)-RCA bypass was obstructed at ostium. Native RCA and ostial left main trunk (LMT) were also total occlusion. The finding of LAD and left circumflex (LCX) through bypass grafts were long diffuse severe stenosis. Left ventriculography (LVG) showed diffuse LV hypokinesis with very low ejectional fraction (EF) 21%. At that point, we considered that revascularization treatment for RCA lesion with poor viability was less effective for the ischemic cardiomyopathy, and decided to follow the optimal medical treatment including beta-blocker, ACE inhibitor and strong statin.

Two months ago, he had repeated intermittent chest pains on effort. Symptoms were not alleviated despite the additional vasodilators. Then we performed angiography again, with no significant changes of findings to the previous year. Adenosine-stress 201Tl gated SPECT to evaluate myocardial reversible ischemia and viability showed poor viability in the inferior myocardium and severe decreased uptake and incomplete redistribution in the anterior, lateral and apex extensively. Based on the results, we performed revascularization of RCA-CTO by the elective percutaneous coronary intervention (PCI) with an antegrade approach.

The guiding catheter of AL1 short-tip with sideholes 7F were used from left femoral artery. We succeeded in passing the guidewire (Runthrough NS floppy, terumo) to distal RCA by using anchoring technique with over-the-wire small balloon. However, intravascular ultrasonography (IVUS) did not pass through the lesion. Subsequently, predilation was performed with 1.25, 2.0 and 2.5mm balloon, and 2 long drug-eluting stents (Xience Sierra 2.25×38mm and Xience Sierra 3.0×38mm), succeeding in revascularization of the RCA-CTO. After recanalization, good collateral flow appeared from the RCA to the septal branches and distal of LAD. As a result, EF recovered to 46% assessed by 201Tl gated SPECT and relieved angina symptoms.

Although revascularization therapy may be limited if diffuse severe myocardial ischemia persistent post CABG in diabetic patients, it may be effective to actively revascularize possible lesions.