

1068 Filter no-reflow of acute progressive lipid-rich plaque on near-infrared spectroscopy during percutaneous coronary intervention

A 72-year-old man having a history of prior myocardial infarction was hospitalized due to suspected angina pectoris. Coronary angiography identified progressive severe stenosis in the middle segment of the right coronary artery (RCA) where mild stenosis was observed one year ago. Near-infrared spectroscopy (NIRS) combined with intravascular ultrasound (IVUS) showed ultrasound attenuation, indicating a high maximum 4-mm lipid core burden index (max-LCBI) of 963. Filter-based distal protection device was used before balloon dilatation due to the high LCBI. Following the balloon dilatation (3.5×15 mm) of the target lesion of the RCA, he complained of chest pain, electrocardiography (ECG) showed ST-segment elevation in the inferior leads, and coronary angiography demonstrated filter no-reflow phenomenon. After aspiration at the site of the distal protection device, coronary flow was slightly improved, therefore sirolimus-eluting stent (3.5×20 mm) was implanted to the lesion. Coronary flow and ECG changes were completely recovered after the removal of the distal protection device. Final NIRS demonstrated a marked reduction of yellow signals at the target lesion (max-LCBI, 295 mm), suggesting that lipid-rich plaque flowed to the distal side and was trapped by the filter-based distal protection device.

NIRS-IVUS is a useful tool in the detection of progressive lipid-rich plaque and guidance of revascularization procedures to prevent distal embolization.