

1096 Two buddies may be better than one: Use of two buddy wires to modify an unexpanded heavy calcified lesion

An 87-year old female visited the emergency room with resting chest pain for 18 hours. She was on medication for hypertension and heart failure. And she had been taking rivaroxaban for stroke prevention because of atrial fibrillation since a year ago through outpatient department. Cardiac enzyme including CK-MB and Troponin I were normal. ECG showed pathologic Q wave, ST-segment elevation and T-wave inversion in all precordial leads and right bundle branch block, which all were not present on ECG 3 months ago.

Coronary angiography showed total occlusion with TIMI 0 flow as de novo heavy calcified lesion at the mLAD.

A 7F long sheath of 45cm was inserted through the right femoral artery due to very tortuous descending aorta, and the LM was engaged with a 6F, EBU 4.0 catheter. The Sion blue? guidewire was passed into the mLAD lesion. Culprit-lesion modification of mLAD with a 2.5x15mm Ikazuchi Zero? was tried. The culprit lesion was not dilated despite of applying maximal pressure for the semi-compliance balloon. Then, 2.5x15mm Raiden 3? non-compliance (NC) balloon was used to dilate the lesion, but the lesion was not dilated despite of applying maximal pressure of 30 atm. for the NC balloon many times. Additionally, a Sion blue? guidewire was passed into the lesion in order to dilate the heavy calcified lesion by lesion cutting with the buddy wire. Balloon angioplasty with a 2.5x15mm Emerge? NC balloon was performed, but the tight lesion did not expand at all. We decided to modify the tight lesion with a 2.5x15mm cutting balloon, but the cutting balloon was not advanced into the lesion because of relatively large profile. The rotablator and scoring balloon system was not available in our hospital at that time. We decided to crack the tight lesion by two buddy wire cutting technique. 2nd buddy wire, Sion blue? was passed into the lesion and another 2.5x15mm NC balloon, NC traveler? was passed into the lesion. Maximal pressure of 30 atm. was applied to the NC balloon to crack the tight lesion with two buddy wires, eventually the tight heavy calcified lesion was dilated. 3.5x26mm Resolute Onyx? was implanted at the mLAD lesion and TMI 3 flow was obtained

We successfully performed lesion preparation with two buddy wire cutting technique to crack the heavy calcified lesion which was not modified by NC balloon angioplasty with high pressure and one buddy wire cutting technique.

Two buddy wire cutting technique helped by NC ballooning can be a good option in lesion preparation of the tightly heavy calcified lesion which was not modified by conventional method.