1006 **A case of effective combination therapy of rotational atherectomy and intravascular lithotripsy for severe calcified lesion**

Sho Nagamine, Yasuhiro Ono1, Tetsuya Saito1, Masaki Fujita1, Teruo Okabe1, Tomokazu Okimoto1

[1]Division of Cardiology, Edogawa Hospital, Japan

A 70-years-old male was referred with left ventricular dysfunction and pleural effusion. Although he was asymptomatic, left ventricular ejection fraction (LVEF) was mildly impaired to 45%. We started medication therapy and performed coronary computed tomography angiography. However, the calcification of the coronary arteries was very severe and the evaluation was poor. Coronary angiography (CAG) revealed severe stenosis in the right coronary artery (RCA). The calcified lesion from left main trunk to left ascending artery was deferred with fractional flow reserve (FFR) of 0.84. We decided to perform percutaneous coronary intervention for RCA. We inserted Launcher 7Fr SAL-1.5 SH guiding catheter to RCA and crossed XT-R guide wire supported by Zizai micro catheter for RCA proximal severe stenosis. However, micro catheter (Zizai, Mogul Sp) and 0.75mm balloon could not pass through the lesion even with anchor balloon technique or 5Fr guide extension catheter support. We could cross Rotawirefloppy Drive and performed rotational atherectomy (RA) with ROTAPRO 1.5mm. Although slow flow was not recognized on angiography, ST elevation was observed in the inferior leads improved by coronary administration of nitroprusside. Since the optical coherence tomography (OCT) could not pass, we evaluated the lesion by Ante-Owl intravascular ultrasound (IVUS). Severe calcification remained and debulking was still required. We were concerned about occurrence of distal embolism by size up of RA or adding orbital atherectomy based on the amount of calcification and mildly impaired LVEF. We performed intravascular lithotripsy (IVL) by SHOCKWAVE C2 3.5/12mm balloon. After IVL, calcium fractures were confirmed by OCT and IVUS. We deployed two drug eluting stents (Ultimaster Nagomi 3.5/38mm, Ultimaster Nagomi 2.75/28mm) and dilatated by 3.5mm non-compliant balloon after stenting. After confirming imaging and angiography findings, the procedure was completed. 6 months later, follow up CAG recognized no in-stent restenosis and FFR of RCA far distal was 0.86. We report the case of effective combination therapy of RA and IVL with consideration.