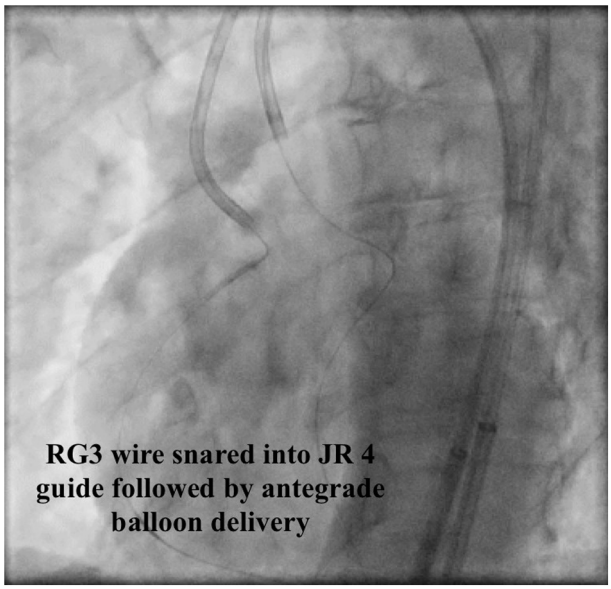

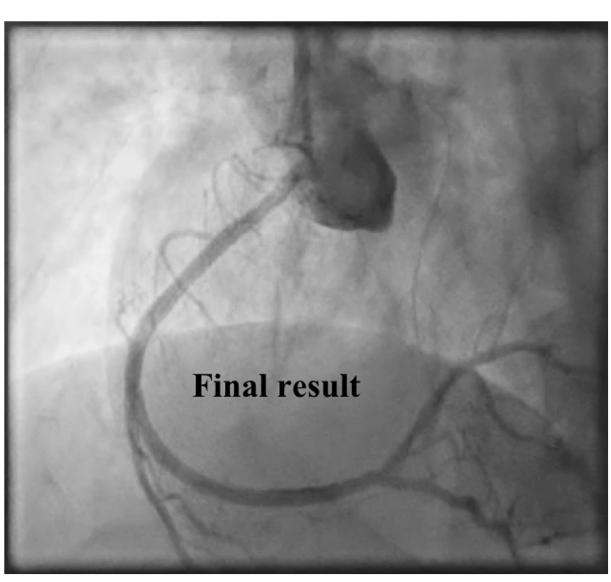

Case Summary. Ostial chronic total occlusion is considered exceptionally difficult for percutaneous revascularization. The calcification in this case further complicates the procedure, making antegrade wiring impossible. We demonstrate an alternate approach by snaring and externalizing the retrograde wire followed by antegrade stent delivery.

TCTAP C-111

Successful Recanalization for Shepherd's Crook Right Coronary Artery with Long and Tortuous Chronic Total Occlusion

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[CLINICAL INFORMATION]

Patient initials or identifier number. E.N

Relevant clinical history and physical exam. A 61 year-old male suffered from chest discomfort on exertion. He had a history of per cutaneous coronary intervention (PCI) to left anterior descending (LAD) artery and left circumflex (LCX). Additionally, he received PCI to right coronary artery (RCA) chronic total occlusion (CTO) 1 year ago, but unfortunately failed.

Relevant test results prior to catheterization. His electro cardiogram did not show abnormal Q wave at inferior leads. His left ventricle systolic function was normal and no segmental wall motion abnormalities. We found ST-T depression during exercise stress testing.

Relevant catheterization findings. We performed diagnosis catheter firstly, we found CTO of RCA. This RCA was shepherd's crook type and CTO length was so long and very tortuous. We found collateral from LAD and LCX and proximal RCA.

[INTERVENTIONAL MANAGEMENT]

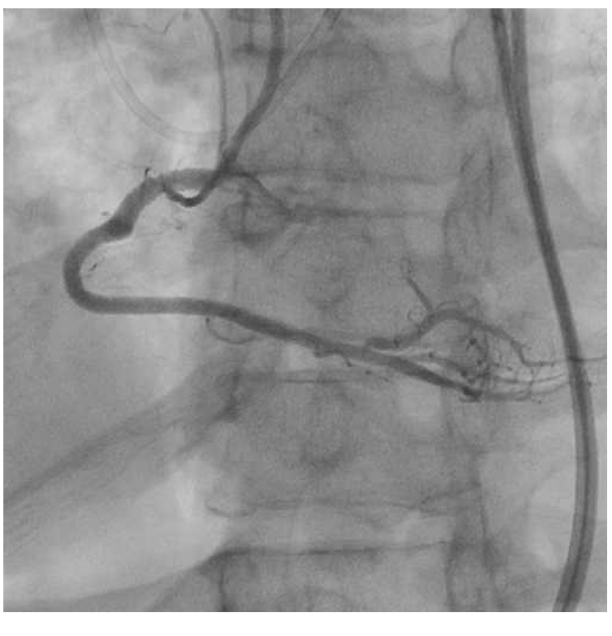
Procedural step. The CTO length was so long and very tortuous. On addition, this RCA was shepherd's crook type and previously tried to treat, so, we thought it was so difficult to treat with only antegrade approach. Therefore, we decided to start retrograde approach firstly.

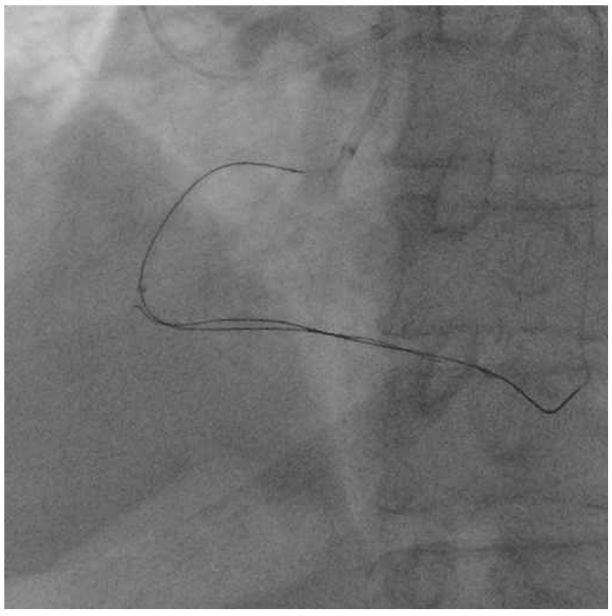
A 7Fr SAL-1.0 SH (Medtronic) engaged in the right and a 7 Fr EBU-3.75 SH(Medtronic) in the left coronary artery through bi-femoral approach.

We checked septal channel by tip injection. We found hairpin curve, so we bent SION (ASAHI) bigger and succeeded in crossing with Caravel 150 cm (ASAHI). The wire advanced CTO exit part and changed the wire from SION to ULTIMATE bros 3.0 (ASAHI).

Then, the antegrade approach was tried using Miracle Neo 3.0 (ASAHI), and Corsair 135 cm (ASAHI) because we could not detect correct direction. We used a Guide liner (JAPAN Lifeline) because we needed strong back up to advance guide wire from antegradely. We succeeded close to each guide wire.

Following a 2.5 mm semi-compliant balloon inflation, Guide liner was proceeded. We performed the reverse-CART technique with this balloon. Retrograde wire was inserted into Guideliner, and we performed externalization with RG3 (ASAHI). We dilated with the balloon and implanted four everolimus-eluting stents. Final angiogram showed successful revascularization at RCA long CTO lesion. We used only 80 cc amount of contrast medium (Omnipaque).





Case Summary. It was so difficult to treat with only antegrade approach because CTO length was so long and so tortuous and its RCA was shepherd's crook type. Like this case bi-directional approach is necessary. To keep the guide wire in the vessel is so important, so we used Ultimate bross 3.0 and Miracle Neo 3.0. And using Guide liner is so useful for this case to get enough backup.

TCTAP C-112

Successful Coronary Intervention for Multiple Lesions Including Chronic Total Occlusion with Minimum Contrast Medium

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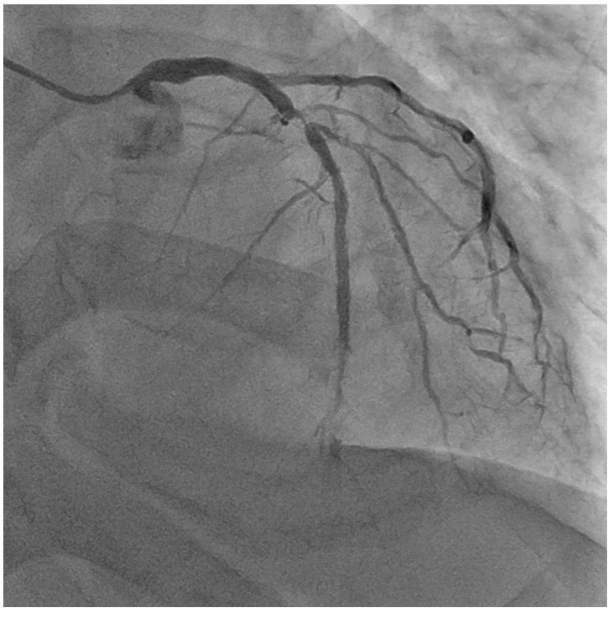
[CLINICAL INFORMATION]

Patient initials or identifier number. 0002249999

Relevant clinical history and physical exam. The patient in our case was a 49-year old male who had undergone percutaneous coronary intervention (PCI) in the right coronary artery (RCA) and left anterior descending (LAD) coronary artery. He had chronic kidney disease (CKD) in the stage G4A3. He admitted to our hospital complaining of worsening exertional chest pain.

Relevant test results prior to catheterization. Electrocardiography showed atrial fibrillation, complete left bundle branch block and flat T waves in the chest leads of V5 and V6. Echocardiography demonstrated diffuse mild hypokinesis in the left ventricle. And left ventricular antero-septal wall showed reduced uptake of radioisotope in the myocardial perfusion scintigraphy. Renal dysfunction was indicated by serum CRE 3.11 mg/dL.

Relevant catheterization findings. Coronary angiography demonstrated stenotic lesions in the proximal RCA and the mid LAD coronary artery. Besides, there was an in-stent chronic total occlusion(CTO) in the distal LAD coronary artery which was perfused with the collateral arteries from RCA.



[INTERVENTIONAL MANAGEMENT]

Procedural step. Considering his renal dysfunction, we had to minimize the consumption of contrast medium. For that purpose, we planned elective PCI for each artery. In the initial session, we treated stenotic lesion in the RCA. Under intravascular ultrasound (IVUS) guidance, we deployed a drug-eluting stent (DES) with no contrast medium. We confirmed favourable blood flow with angiography using only 4 cc contrast medium. Preparing for the next session of treating CTO lesion in the LAD coronary artery, we confirmed collateral route by tip injection from a micro-catheter with 2cc contrast medium.

In the second session, we first deployed a DES at the stenotic lesion in mid LAD coronary artery under IVUS guidance using no contrast medium. Next, we successfully advanced ultimatebros 3 guide wire