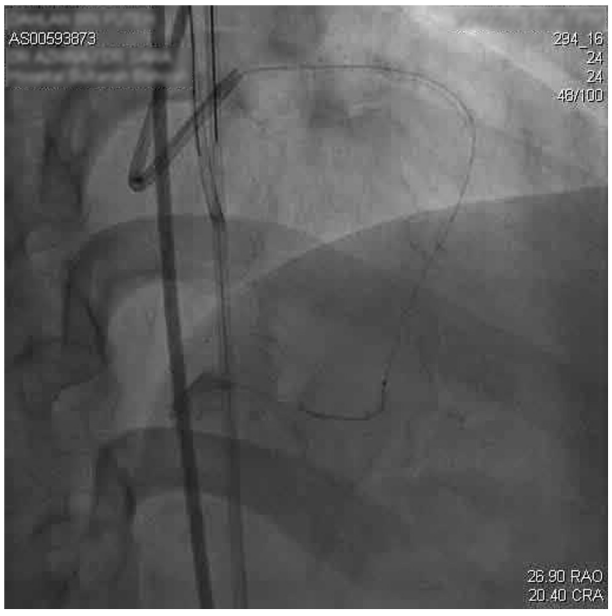

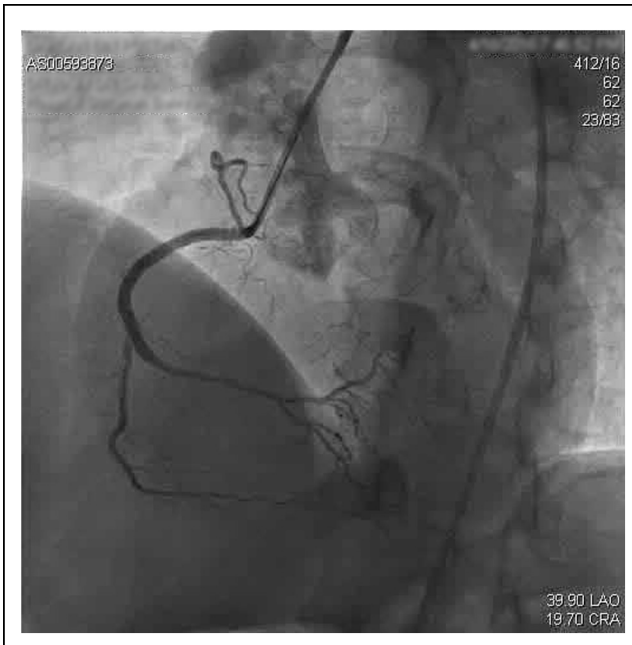

Case Summary. Final angiography results were excellent with the absence of perforation or dissection. He was discharged well and remains asymptomatic of angina. This case has several learning points. Firstly, it demonstrates that a perceived initial difficult approach may turn out to be the safest approach to successful CTO intervention. Secondly, it shows good guide support is essential in CTO intervention with challenging ostial lesion and demonstrates various techniques to improve guide support. Finally, use of soft wire is essential to negotiate collateral channels as hydrophilic wires tend to cause perforation of collateral channels.

TCTAP C-114

Chronic Total Occlusion of Ostial Left Main Coronary Artery

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[CLINICAL INFORMATION]

Patient initials or identifier number. SW

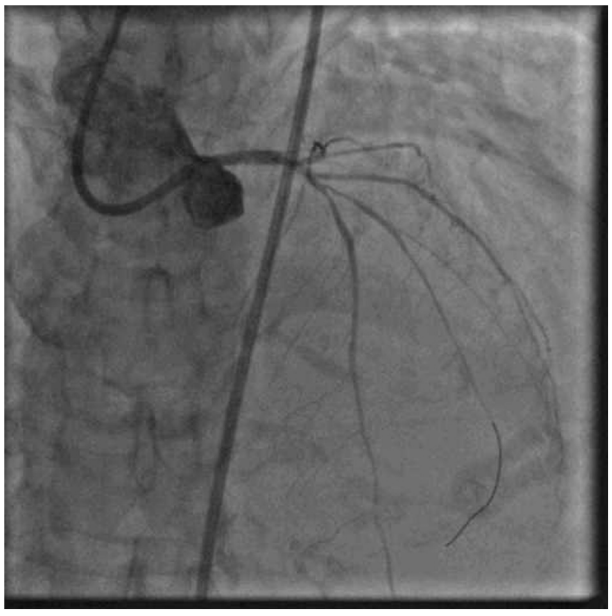
Relevant clinical history and physical exam. A 65 year-old woman presented with recurrent typical chest pain (Canadian Classification Score 3). There was progressive worsening symptom accompanied with significant exertional dyspnea. She had diabetes mellitus with no history of previous myocardial infarction. She had no hypertension, dyslipidemia, nor smoking history. Blood pressure: 110/70 mmHg, heart rate: 74 bpm, respiratory rate: 22 tpm, and positive gallop sound in heart auscultation.

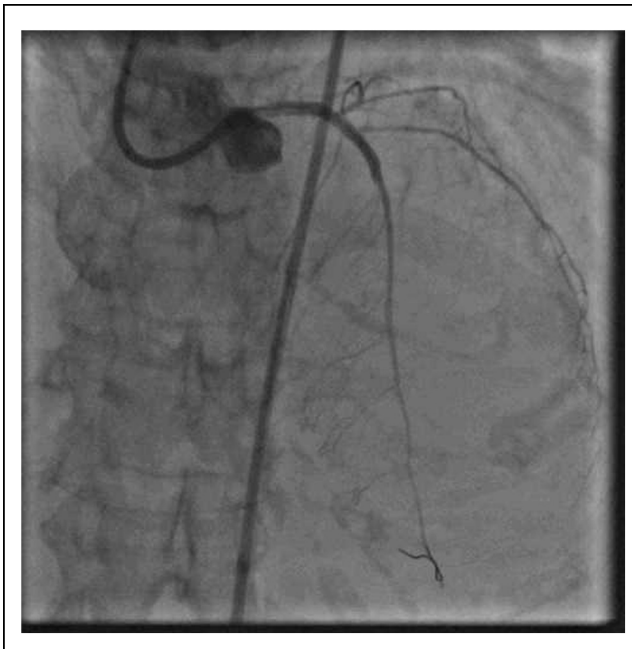
Relevant test results prior to catheterization. Electrocardiogram showed sinus rhythm with anterior old myocardial infarction. Echocardiogram revealed anterior, anteroseptal, and anterolateral hypokinesia with reduced ejection fraction (42%)

Relevant catheterization findings. Coronary angiography examination showed ostial left main coronary artery (LMCA) occlusion. The lesion considered chronic process due to good protective collateral blood supply existing from right coronary artery.

[INTERVENTIONAL MANAGEMENT]

Procedural step. The patient refused CABG, therefore, PCI were performed. Guide wire Run through NS hypercoat selected to cross the occlusion lesion because the micro channel was still visible at the cto lesion. Several efforts were attempted to penetrate the proximal cap because the guiding catheter could not engage properly hindered by ostial LMCA lesion. After guide wire succeeded to cross the lesion several predilatations were performed at ostial LMCA to LAD. At this point the result still not satisfied due to the lesion was calcified. Drug eluted stent (DES) 3.0 x 13 mm deployed at ostial-distal LMCA to give a way to guiding catheter to engage properly at the ostial LMCA. After stent deployment, apparently the LAD has diffuse lesion, and the guide wire was not at distal LAD. Rewiring to distal LAD then performed followed by several predilatation at ostial to mid LAD as preparation before stent deployment. Finally DES 2.75 x 28 mm deployed at ostial to mid LAD overlapping with the previous stent. Procedure finished without complication, with the result of TIMI flow 3.





Case Summary. It has been reported a successful percutaneous coronary intervention of ostial LMCA CTO. PCI on LMCA CTO is very rarely performed, because it has a strong indication for bypass surgery, even guidelines mention it is harmful to perform PCI. It is a very challenging case because every step was difficult, starting from guiding catheter engagement, penetration and advancement of guide wire to stent deployment. In spite of the challenges, we succeeded to cross the lesion using only workhorse guide wire without sufficient back up of the guiding catheter which was improperly engaged, followed by stent deployment.

TCTAP C-115

Retrograde PCI to Calcified RCA CTO Using Antegrade and Retrograde Conquest Pro12 Wires

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[CLINICAL INFORMATION]

Patient initials or identifier number. ABM

Relevant clinical history and physical exam. A 55 year old man with history of diabetes, hypertension, hyperlipidemia and smoking. He presented with anterior STEMI with cardiogenic shock who under went PCI to proximal LAD and LCx during the first presentation. He has a residual proximal RCA CTO. One week after the initial PCI, patient was clinically stable. He was keen to undergo PCI to RCA CTO. MIBI viability scan showed viable RCA territory.

Angiogram is shown:

Relevant test results prior to catheterization. Full Blood Counts was normal: Hb 14.5g/dl, platelet = 233 x 10(9)/L

Renal function was normal: Cr = 80 mmol/l, urea = 10 mmol/l

HBA1C = 8%, LDL = 5.1 mmol/L, HDL = 0.9 mmol/l, Triglyceride = 2.3 mmol/l

Echocardiogram showed LVEF = 50%, normal cardiac valves, mild hypokinesia in anterior wall and normal contractility in the inferior wall

CXR showed cleared lung fields

Relevant catheterization findings. Left main, normal

Proximal LAD stented with a 3.5 x 28 mm Xience Alpine stent during the first PCI

Proximal LCx stented with a 2.75 x 28 mm Xience Alpine stents during the first PCI

Proximal RCA has a CTO, heavy calcium was present.

There was long retrograde collateral supply to distal RCA from LAD via septal branches.

The septal collaterals were small and tortuous

[INTERVENTIONAL MANAGEMENT]

Procedural step. Right radial Hockey Stick guider and femoral 6F EBU 3.5 Guider assess. Antegrade PCI to RCA CTO attempted first. A Run through wire via a 135 cm Corsair mircro catheter support used to reached the proximal CTO. A Gaia 3 wire was tried. However, the proximal CTO Cap was hard, A Conquest Pro 12 wire then used to penetrate the proximal CTO Cap. The Conquest Pro 12 wire and Gaia 3 wire used interchangeably for downstream tracking and drilling through the CTO. The Antegrade drilling was not easy. Despite the effort, the distal RCA true lumen could not be reached. The Corsair and Gaia 3 wire then parked at the mid RCA subintimal space. We proceeded to retrograde PCI using a Run through wire in a 150 cm Corsair micro catheter. The retrograde wiring was relatively easy, Run through wire traveled via first septal to RPL then distal RCA. Advancement of Corsair micro catheter was difficult.

We adapted a screw and wait technique and finally advanced the Corsair microcatheter to distal RCA. A Gaia 3 and then a Conquest Pro 12 wire was used to penetrate the distal CTO cap. Reverse CART technique was applied. Antegrade POBA with a 2 x 12 mm balloon to enlarge reentry subintimal space. A Conquest Pro 12 wire used to enter into proximal RCA. A Run through wire exchanged to enter into RCA guider and followed by RG3 wire externalisation. Antegrade pre-dilation performed with 2.5 x 15 mm Trek balloon. 3 Xience Alpine stents (3.5 x 48, 3 x 28, 2.75 x 18 mm) were deployed and post-dilated.