Successful Percutaneous Coronary Intervention for Right Coronary Artery Chronic Total Occlusion Guided by Non-contrast Enhanced CT

Masafumi Kato, Kinzo Ueda
Mei Heart Center, Japan

[Clinical Information]
Patient initials or identifier number: N.K.

Relevant clinical history and physical exam:
Clinical History:
1992: He underwent PCI for proximal RCA CTO (about 20 years ago), which resulted in failure.
2002: Anteroseptal AMI occurred (about 10 years ago), and he received stent implantation on the proximal LAD.
2012, Aug. 28: He was admitted to our center for CHF (BNP 1,394 PG/ml). UCG: No wall motion abnormality, ejection fraction 78%, mild mitral regurgitation.
2012: Coronary CTA showed a total occlusion in the proximal RCA. The distal RCA had a normal angiographic result.

Relevant clinical history and physical exam:
Patient initials or identifier number: Y.K. (1419773)

Relevant clinical history and physical exam:
A 65 year-old man whose coronary risk factors include hypertension and hyperlipidemia presented with exertional chest pain.

Relevant test results prior to catheterization:
The trans-thoracic echocardiography revealed well preserved ejection function (EF=62%). Treadmill test showed ST depression in V4-6 with presentation of heart burn.

Relevant catheterization findings:
A left coronary angiogram revealed an intermediate stenosis in the proximal LCX. The trans-thoracic echocardiography showed a total occlusion in the proximal RCA. The trans-thoracic echocardiography revealed well preserved ejection function (EF=62%). Treadmill test showed ST depression in V4-6 with presentation of heart burn.

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CTAP C-096
False Lumen Tracking in RCA CTO? What Did IVUS Tell Us
Feng Yu Kuo
Kaohsiung Veterans General Hospital, Taiwan

[Clinical Information]
Patient initials or identifier number:
56 years old male, with history of HTN and dyslipidemia
Relevant clinical history and physical exam:
Hx of old inferior MI, in 2004, s/p PTCA with BMS stenting, s/p PCI over LAD and Lcx but with low EF
RCA CTO noted since 2007, failed PCI at local H
Relevant test results prior to catheterization:
Cardiac SPECT: ischemia over inferior wall, 30%
Echocardiogram: severe LV systolic dysfunction, EF: 32%
Relevant catheterization findings:
RCA: CTO, in-stent total occlusion

[Interventional Management]
Procedural step:
Antegrade failed initially.
Low ejection fraction made procedure risky.
Finally, antegrade wire passed.
Case Summary:
Antegrade: failed initially, then retrograde approach. But conquest Pro wire not easy to pass.
Finally antegrade wire enter distal true lumen
IVUS make sure previous BMS undersizing and new antegrade wire just run outside stent, but inside true lumen. New DES covered only at outside stent but inside true lumen area
Final TIMI III flow

TCTAP C-097
Intervention of Left Circumflex Artery Chronic Total Occlusion via Left-to-left Retrograde Approach in a Left Dominant System - The Risk You Cannot Ignore
Joe Kin-Tong Lee, Li Shu Kin
Pamela Youde Nethersole Eastern Hospital, Hong Kong, China

[Clinical Information]
Patient initials or identifier number:
CSL
Relevant clinical history and physical exam:
A 49-year-old man, with history of small perimembranous ventricular septal defect, was admitted to our unit for non-ST elevation myocardial infarction and acute pulmonary edema. He presented with chest discomfort for 2 days, with increasing shortness of breath on admission. He required supplementary oxygen therapy via the nasal cannula.
Relevant test results prior to catheterization:
Chest X-ray showed pulmonary congestion with bilateral pleural effusion. Electrocardiogram revealed sinus tachycardia at 110 beats per minute. The QRS morphology was right bundle branch block pattern. We did not have the old electrocardiogram for comparison. He had modest elevation of troponin-I of 0.21ng/ml (reference <0.03ng/ml). On echocardiogram, the left ventricular systolic function was markedly impaired (left ventricular ejection fraction was around 20%), with hypokinesia over the anterior, lateral and inferoseptal left ventricular wall. A restrictive perimembranous ventricular septal defect was located.
The patient was stabilized by double antiplatelet agents, subcutaneous enoxaparin, oxygen, and diuretic. He received a coronary angiogram on the second day of hospitalization.
Relevant catheterization findings:
The coronary angiogram revealed a left dominant system. The right coronary artery was small. Tight stenotic lesions were found over the proximal and mid part of left anterior descending artery (LAD) and mid left circumflex artery (LCx). The blood flow was maintained at TIMI III. A chronic total occlusion (CTO) was found at distal LCx. The collateral flow distal to the CTO and to the left posterior descending artery (PDA) was supplied by the LAD through the septal perforators.
A brief attempt of antegrade wiring of the distal LCx CTO lesion with a Fielder FC guidewire was made but was unsuccessful. Percutaneous coronary intervention (PCI) to the proximal and mid LAD lesions, and the mid LCx lesion was uneventful with 3 drug eluting stents (DES) implanted (Xience V 2.75x23mm and 3.0x18mm in LAD, and Xience V 2.75x18mm in LCx).
The patient was discharged after 8 days of hospitalization. The patient was electively admitted 3 months later for reattempt PCI to the CTO lesion.

[Interventional Management]
Procedural step:
The patient received an elective reattempt PCI to the distal LCx CTO lesion (Fig 1, asterisk). The EBU 8/3.5 guiding catheter through the right femoral arterial access provided good support for left coronary artery intervention. Antegrade wiring of the distal LCx CTO lesion was attempted with Fielder FC, Fielder XT, Miracle 3, Miracle 6, Conquest Pro 12, and then Conquest Pro 8-20 guidewires. Crusade microcatheter was used to enhance guidewire support. But antegrade wiring was still failed which ended up with guidewire trauma and contrast staining of the myocardium. Retrograde approach was then contemplated. Due to the left dominant system and the collateral