Where to Meet? A Possible Innovation of Chronic Total Occlusion
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[Clinical Information]
Patient initials or identifier number. Mr. C

Relevant clinical history and physical exam. This 52-year-old male ex-smoker complained of chest pain on exertions. He has triple-vessel CAD, hypertension, and hyperlipidemia.
He received PCIs, with a DES in distal LCX (2009), another DES in distal RCA for NSTEMI (2011). Treadmill test was positive, and Thallium scan showed moderate ischemia in septal, apex, and inferior walls. In March, 2014, LAD CTO and RCA CTO was noted, both with collaterals. PCI was performed to RCA CTO, but failed. The physical examination was generally normal.

Relevant test results prior to catheterization. Treadmill exercise stress test was positive.
Thallium scan showed moderate reversible ischemia in septal, apex, and inferior walls.

Relevant catheterization findings. Left main: Patent
LAD: mid total occlusion with intra- and inter-coronary collateral vessels
LCX: no in-stent restenosis
RCA: proximal 50% stenosis, mid-to-distal RCA total occlusion with collateral vessels from left coronary artery

[Interventional Management]
Procedural step. Target: LAD CTO
1. Engage 7Fr EBU 3.5 to LCA
No clear collateral vessel except septal branch
No proximal entry point by multiple projection angles
2. Collateral wiring with Sion wire and FineCross microcatheter.
3. Could not enter distal CTO cap with Ultimate Bro 3, Conquest pro, and Conquest pro 12.
4. Failed antegrade wiring with Ultimate Bro 3, and Conquest pro with microcatheter support. (Could not get to entry point)
5. Re-try retrograde CTO cap entry with Conquest pro 8-20 with success
6. The Finex could not pass CTO body to guiding even with successful wiring (probably due to large curve in septal collateral vessel)
7. Rendezvous technique in LAD with success (economic limitation for other devices, and spare one puncture)
8. Sequential balloon dilation and IVUS
9. A Promus element 2.5x32mm and another 2.5x24mm deployed with post-stenting balloon dilatation.
The result was good
Case Summary. This LAD CTO has special septal collateral vessels, which rarely served as wiring route for retrograde approach. This way would make a large curve that attenuate support. It is innovative that even septal branch could be tried for LAD CTO, and could bring success.

When the microcatheter could not retrogradely enter guiding catheter for regular rendezvous technique, several ways could be tried, including externalization with RG-3, or 2 ipsilateral guiding catheters for anchor. The first way makes more expense of patient in Taiwan, and the second way needs 1 more puncture wound. Careful in-situ rendezvous technique (within coronary artery), like in this case, would limit expense and harm.

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Successful Recanalization of Long Severe Calcified RCA CTO Lesion Using Retrograde Approach in a Hemodialysis Patient
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[CLINICAL INFORMATION]
Patient initials or identifier number. 00-8626-15
Relevant clinical history and physical exam. A man who had a history of old myocardial infarction, started to feel chest pain on effort since February 2014. After that, his symptoms were getting worse. Therefore, he visited outpatients clinic and received further examinations.
Relevant test results prior to catheterization. Coronary CT demonstrated RCA CTO and mid LAD 90% stenosis.

Relevant catheterization findings. CAG results
RCA proximal-distal CTO with severe calcification
LAD proximal 90% with calcification