CCT @ LINC 2018
How to cross SFA-CTO
Japanese Technique

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Disclosure Statement

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Consulting for

Cardinal Health
Cordis Endovascular Japan
Boston Scientific
Terumo
Kaneka
Asahi Intec
Tokai Medical Products
Future Medical Devices (FMD)
Nipro - Goodman
Medikit
Success rate of antegrade guidewire crossing in the long SFA-CTO lesions is about 80%. In order to improve the procedure success in the remaining 20% cases, many re-entry devices have been introduced to the EVT field.

However, until quite recently, we did not have an access to such newly developed re-entry devices because of the device lag in Japan.

So, we have frequently used various distal puncture techniques (or trans-collateral wiring) and bi-directional wiring to improve initial success rate of our EVT procedures.
Bi-directional wiring

Trans-collateral angioplasty (TCA)
- Femoral artery frontal puncture
- Femoral artery side puncture
- Antero-lateral popliteal puncture
- Antero-medial popliteal puncture
- High tibial puncture
- Peroneal puncture

2007
Control angiography
Advance micro-catheter / 0.014” guidewire to a collateral channel, Injected contrast.
Advance guidewire to distal SFA / POP.
Tip injection
Retrograde wiring
Chevalier floppy
0.014” with Corsair
Final angiography
Trans-collateral angioplasty for the treatment of long chronic total occlusions of superficial femoral arteries: a novel wiring technique

K. Urasawa, K. Satō, R. Koshida, Y. Honma

Endovascular therapy (EVT) utilizing percutaneous transluminal angioplasty has become a standard technique to re-establish sufficient blood flow in ischemic limbs of patients with peripheral arterial disease (PAD). Long chronic total occlusion (CTO) of the su-
Bi-directional wiring

Trans-collateral angioplasty (TCA)
Femoral artery frontal puncture
Femoral artery side puncture
Antero-lateral popliteal puncture
Antero-medial popliteal puncture
High tibial puncture
Peroneal puncture

2009
Control Angiography
Direct puncture of distal SFA
Final Angiography
Bi-directional wiring

Trans-collateral angioplasty (TCA)
Femoral artery frontal puncture
Femoral artery side puncture
Antero-lateral popliteal puncture
Antero-medial popliteal puncture
High tibial puncture
Peroneal puncture
Direct puncture of popliteal artery (P2)
Advance retrograde guidewire
Bi-directional wiring

Trans-collateral angioplasty (TCA)
Femoral artery frontal puncture
Femoral artery side puncture
Antero-lateral popliteal puncture
Antero-medial popliteal puncture
High tibial puncture
Peroneal puncture
Direct puncture of popliteal artery (P3)
Advance retrograde guidewire
Case: 80’s Male

Diagnosis: PAD (Rutherford 3), HT
EVT history: None
ABI: R 0.59, L 0.32
Target: Left SFA-CTO

Strategy: Anterolateral popliteal puncture
Bi-directional wiring
Guidewire Rendezvous within CTO
POBA using super long balloon
Provisional stent implantation
Anterolateral Popliteal Puncture Technique: A Novel Retrograde Approach for Chronic Femoropopliteal Occlusions

Michinao Tan, MD¹, Kazushi Urasawa, MD, PhD¹, Ryoji Koshida, MD, PhD¹, Takuya Haraguchi, MD¹, Shunsuke Kitani, MD¹, Yasumi Igarashi, MD, PhD¹, and Katsuhiko Sato, MD, PhD¹

RESULTS: Both the anterolateral popliteal puncture technique and subsequent revascularization were successful in all patients. Mean hemostasis time for balloon inflation only was 7.73±4.03 vs 4.78±0.78 minutes for balloon inflation with TBP injection. There were no in-hospital deaths or complications, including pseudo-aneurysms, arteriovenous fistulas, hematomas, distal embolism or nerve damage.
Bi-directional wiring

Trans-collateral angioplasty (TCA)
Femoral artery frontal puncture
Femoral artery side puncture
Antero-lateral popliteal puncture
Antero-medial popliteal puncture
High tibial puncture
Peroneal puncture

2015
Bi-directional wiring

Trans-collateral angioplasty (TCA)
Femoral artery frontal puncture
Femoral artery side puncture
Antero-lateral popliteal puncture
Antero-medial popliteal puncture
High tibial puncture
Peroneal puncture

2011
Bi-directional wiring

Trans-collateral angioplasty (TCA)
Femoral artery frontal puncture
Femoral artery side puncture
Antero-lateral popliteal puncture
Antero-medial popliteal puncture
High tibial puncture
Peroneal puncture

2011
Take Home Message

Now, we can establish bi-directional wiring settings in any type of SFA-CTO lesions including extremely complex cases.

Besides the cost effectiveness issue, bi-directional wiring technique has an advantage against re-entry devices. Re-entry devices tend to elongate the lesion length which should be treated. Bi-directional wiring does not.
Fighting for Limb salvage
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