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Global Expert Exchange

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Peripheral CTO Crossing
In Japan

Kazushi Urasawa, MD, PhD
Tokeidai Memorial Hospital
Sapporo, Japan
Disclosure Statement

Kazushi Urasawa, MD, PhD, FJCC

Consulting for

Cardinal Health
Cordis Endovascular Japan
Boston Scientific
Terumo
Kaneka
Asahi Intecc
Tokai Medical Products
Future Medical Devices (FMD)
Nipro - Goodman
Medikit
Guidewire crossing strategy in femoro-popliteal occlusive disease (Old days)

Antegrade wiring

Success

Re-entry device

POBA / Stent

Procedure Failure

Success

Yes

No

Yes
Guidewire crossing strategy in femoro-popliteal occlusive disease (Old days)

Antegrade wiring

Success

Re-entry device

POBA / Stent

Procedure Failure
Guidewire crossing strategy in femoro-popliteal occlusive disease (Old days)

- Antegrade wiring
  - Success
    - Yes: POBA / Stent
    - No: Procedure Failure
Guidewire crossing strategy in femoro-popliteal occlusive disease (Now in Japan)

Antegrade wiring

Success

Yes → POBA / Stent

No → Bi-directional wiring

Success

Yes → Procedure Failure

No → Very rare
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.

Because we did not have an access to re-entry devices until quite recently, we have used trans-collateral wiring technique or various distal puncture techniques to establish bi-directional wiring setting.
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
Trans-collateral angioplasty for the treatment of long chronic total occlusions of superficial femoral arteries: a novel wiring technique

K. URASAWA, K. SATO, 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

2011
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

2013
Direct puncture of popliteal artery (P3)
Advance retrograde guidewire
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 pseudoaneurysms, 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
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
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
Peripheral CTO Crossing
In Japan

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Sapporo, Japan