Disclosure

Speaker name: Tatsuya Nakama MD.

I have the following potential conflicts of interest to report:

- **Consulting**: Boston Scientific, Medtronic, Century Medical Inc.
- Employment in industry: None
- Stockholder of a healthcare company: None
- Owner of a healthcare company: None
- **Other(s)**: Honoraria received from Abbot Vascular, Asahi Intecc, Boston Scientific, BD, COOK, Cordis, NIPRO, KANEKA, Lifeline, Medikit, Medtronic, Orbus Neichi, Terumo,
Crossing CTO lesion is challenging

- Advancing into the CTO lumen
- Wiring in the CTO body
- Successful penetration

20 to 30% Antegrade Fail
We sometimes lost the way to go...

“Caving” without any landmark is extremely challenging
Calcium frequently show “our way”
New concept of guidewire for crossing complex lesions

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Ca guide
Wiring is NOT always possible!!

With only manual sensation... It is not promising...
Blind “Caving” is often dangerous..
Looped wire technique (LWT) is important for CTO crossing

- Long occluded lesion
- Ambiguous route

- These situations, intimal tracking can be difficult.
- Long procedure time, which increases amount of contrast media and radiation.
- Increase number of GW use.

→ LWT is really effective
Pros and Cons for conventional looped wire technique

Pros of LWT
- Simple approach for long occluded lesion.
- Reduce procedure time.
- Reduce amount of contrast media and radiation
- Reduce number of device usage. (Reduce cost)

Cons of LWT
- Difficult to enter distal true lumen.
- Increase lesion length by expanding subintimal space
- Blockage of collateral flow
- Possibility of severe dissection and perforation
Pros for **LWT**: It often easily cross the long CTO
Cons for LWT: Wide loop often needs retrograde access. Difficult to advance the GW. Expand subintimal space due to GW deformation. Retrograde access should be considered.
Tips & tricks for **LWT**: **Keeping Narrow loop**

✓ **Point 1**
  Begin forming the loop inside the plaque.
  Avoid creating the loop before entering the lesion.

✓ **Point 2**
  When the loop is expanding, make sure to control the GW.
  So it does not expand the loop.

✓ **Point 3**
  If the loop starts to expand, pull back GW to find the different way
  Advance the Microcatheter to increase the GW support.

*Narrowed loop have a chance to re-enter to the distal true lumen*
And it can prevent severe dissections and perforations.
Intentional control of GW loop size seemed impossible.
**ASAHI Gladius MG14 PV**

- **Coil Length**: 8.5 cm
- **Radiopaque length**: 3.0 cm
- **Polymer jacket & Hydrophilic coating**: 41 cm

**ASAHI Gladius MG14 PV ES**

- **Coil Length**: 3.0 cm
- **Radiopaque length**: 3.0 cm
- **Polymer jacket & Hydrophilic coating**: 10 cm

**ASAHI Gladius MG18 PV ES**

- **Coil Length**: 4.5 cm
- **Radiopaque length**: 4.5 cm
- **Polymer jacket & Hydrophilic coating**: 10 cm

- **Coated with SLIP-COAT® coating.**

- **Tip load**: 3.0gf
- **Length**: 235 cm, 300 cm
Feature: Micro gap of the stiffness of GW core

Tip flexibility (0.014”)

When GW forms a loop, the micro gap structure helps to retain its narrow shape.

Prevents the GW from deforming
Development of dedicated devices always help us...

Gladius MG series
Make the narrow LWT more easy!!
Case Overview

Case 1. Long SFA occlusions with Gladius MG18 PV ES
Case Overview: SFA long occlusion

70s male with rest pain
Iliac artery stenosis is already recanalized
Difficult to identify the entrance of SFA long-CTO
Patent distal SFA

Retrograde 1st strategy may be mandatory
→ Distal SFA puncture

with Gladius MG 18 PV ES
(with a support of 2.4Fr CX-I)
Distal SFA direct puncture

Retrograde knuckle with small loop!
Identify the entrance of CTO & rendezvous
POBA with 3.0mm balloon

It seemed not so bad...
IVUS after narrow loop crossing

GW is in the center of the vessels
LWT ≠ subintimal approach
3-min POBA (6.0mm) & DCB (6.0mm)
Final angiogram and IVUS findings
Summary of Case overview

• SFA occlusion with rest pain
• It is difficult to identify the entrance of SFA → retrograde first
• **Retrograde LWT** was demonstrated with Gladius MG18
• IVUS findings showed **complete intraluminal tracking**
• After the 3.0mm and 6.0mm POBA, and DCB, Angiographic result is almost perfect.
• Final IVUS showed almost perfect result.
• **Narrowed looped wire is not always subintimal approach.**
Case Overview

Case 2. R5, ATA CTO
with Gladius MG14 PV ES
Case Overview: ATA CTO
Antegrade \textcolor{red}{LWT} with narrow loop (Gladius MG14 PV ES)
Retrograde *LWT* with narrow loop (Gladius MG14 PV ES)
Rendezvous and antegrade crossing
Summary of Case overview

- CLIT patients with ischemic ulceration in heal
- Dorsal artery was opened
- **Wiring for ATA** with looped Gladius MG → Stacked at distal
- **Distal DP puncture** was demonstrated with Gladius MG
- **Narrow looped Gladius MG** easily **MET** the Ante wire
- Final angiography of this procedure was outstanding.
Conclusions

• *LWT (Looped wire technique)* is crucial technique for CTO crossing

• To keep *narrow loop & bi-directional approach* is important for procedural success

• *Gladius MG series* make it easy. It may be useful for complex long CTO.
Thank you for your attention
New concept of guidewire for crossing complex lesions

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