TCTAP 2012, Seoul – Apr. 25-27, 2012

TCTAP-2012 Cordis Evening Symposium
The Leg Summit 2012
Save the legs – Freedom from amputation –
Lower Extremity Intervention Brings Better Life to CLI Patients

# Techniques and strategies for complex lesion

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# Complex BTK lesions

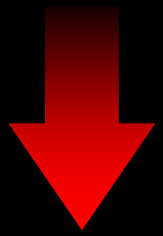
1. Long CTO
2. Severely calcified lesion
3. No distal artery situation

# How to recanalize the long BTK-CTO using 0.014” system ?

# Standard strategy for BTK-CTO

Puncture site: Ipsi-lateral puncture
3 / 4F sheath, 4.5F sheathless guide
Guide wire: 0.014” wire
Wire support: Micro catheter

Success rate of antegrade wiring = ~70%



Unsuccessful

Bi-directional wiring methods

# Wiring methods for BTK-CTOs

1. Antegrade wiring
2. Bi-directional wiring
   - 2-1. Bi-directional wiring with distal puncture
     Dorsalis pedis, tibial artery, peroneal artery.
   - 2-2. Bi-directional wiring using collateral channel
     Trans-collateral angioplasty (TCA)

# Standard Antegrade Wiring

Case

# Case 74F

| | |
|---|---|
| Diagnosis | PAD(CLI), DM, HT, HL<br>CRF(HD) |
| Severity | Fontain IV, Rutherford 5 |
| Target | BTK (re-occlusion) |
| Lesion type | CTO |
| Date of EVT | 2011.4.8 |

# Control Angiography

Cardiovascular Center – Tokeidai Memorial Hospital – Sapporo, Japan
231195-20110408

# Angioplasty for ATA (distal)

Cruise / Prominent
Micro Knuckle method

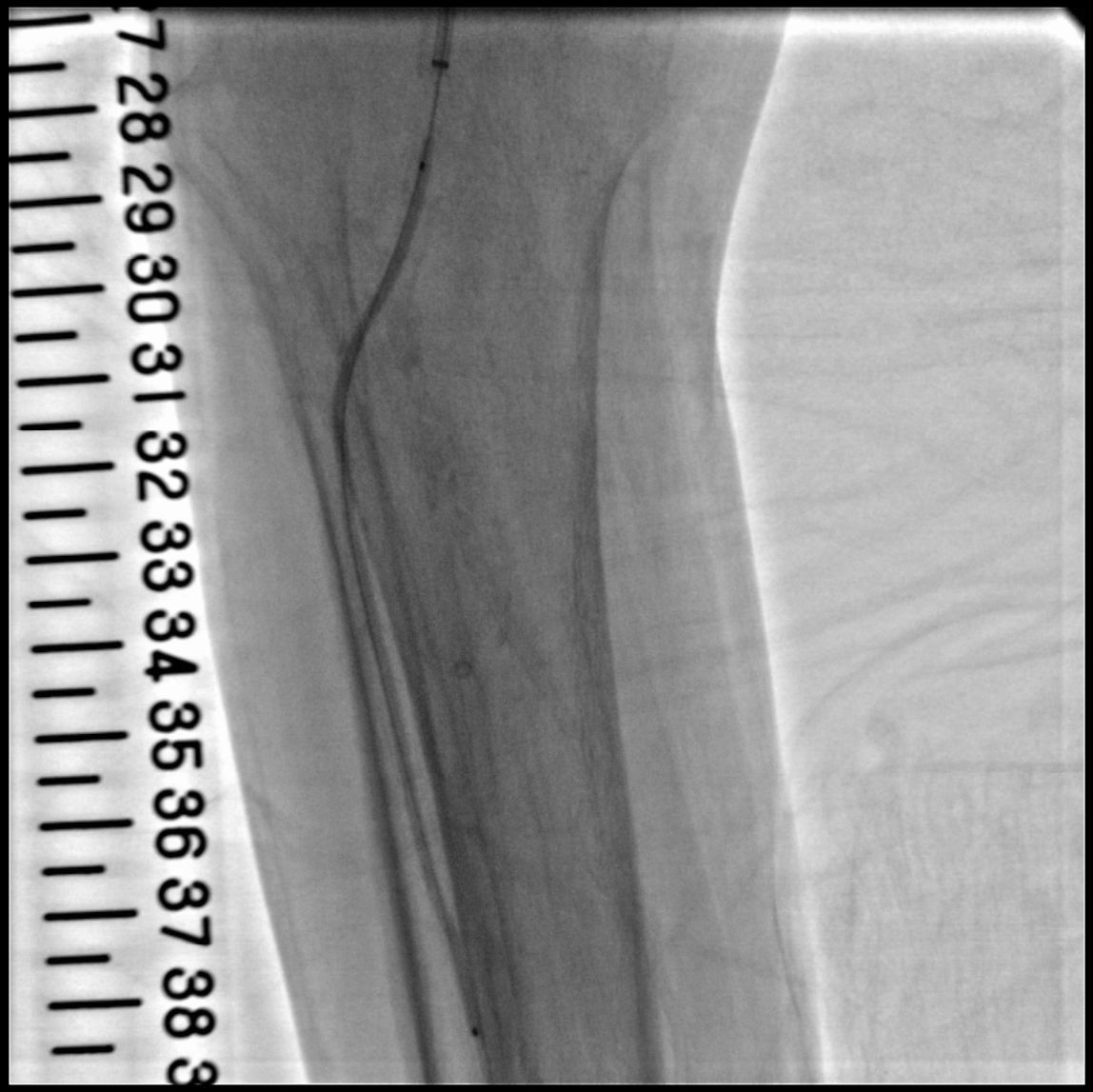
Amphilion-deep
2.0x120mm

# Angioplasty for ATA (mid)

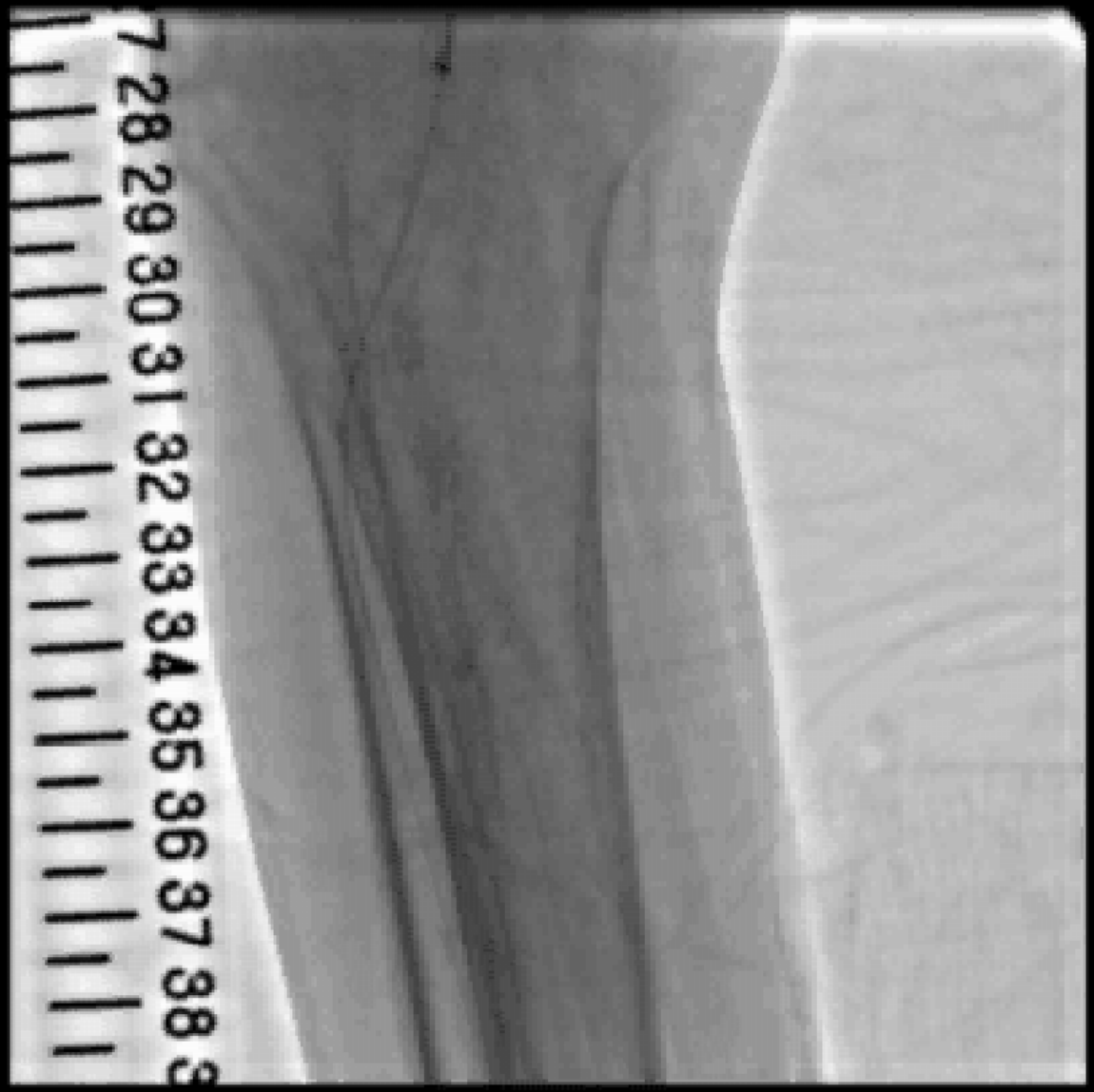
Amphilion-deep
2.0x120mm

# Angioplasty for ATA (prox.)

Amphilion-deep
2.0x120mm

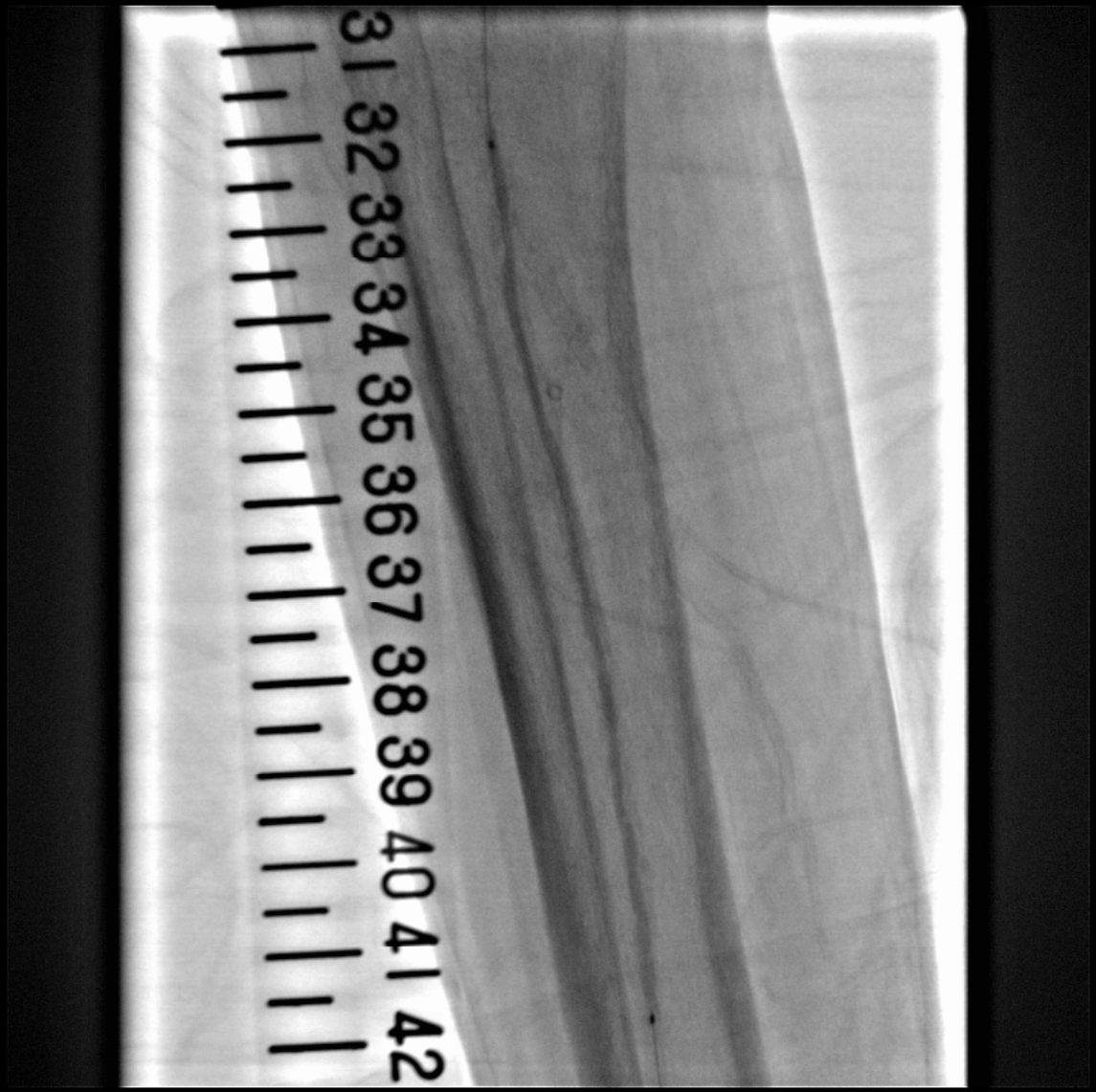


# Angiography after ballooning



# Angioplasty for PT-PA

Amphilion-deep
2.0x120mm



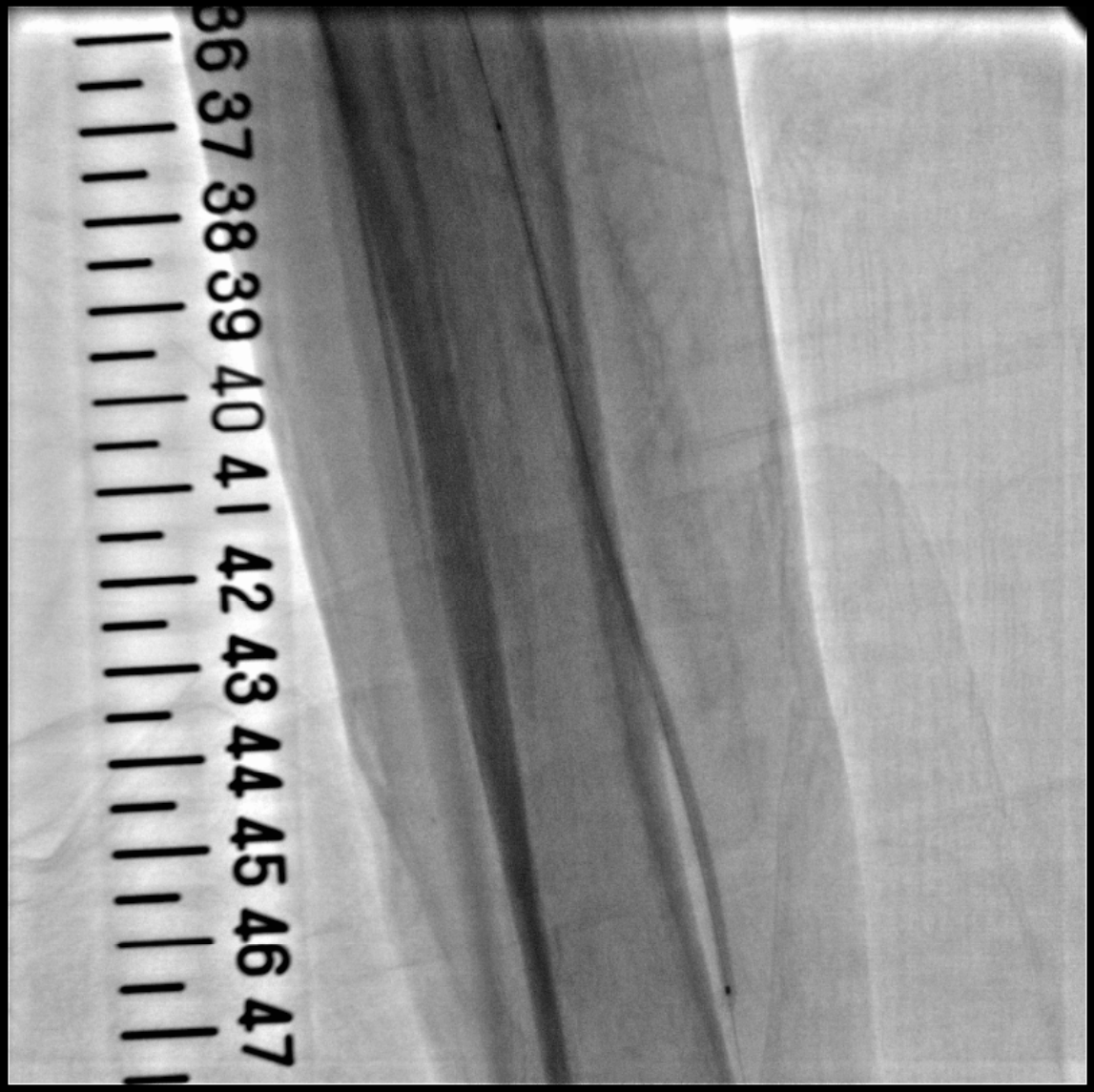
# Wiring to the distal PTA and tip injection

# Angioplasty for PTA (distal)

Amphilion-deep
2.0x120mm

# Angioplasty for PTA (mid)

Amphilion-deep
2.0x120mm

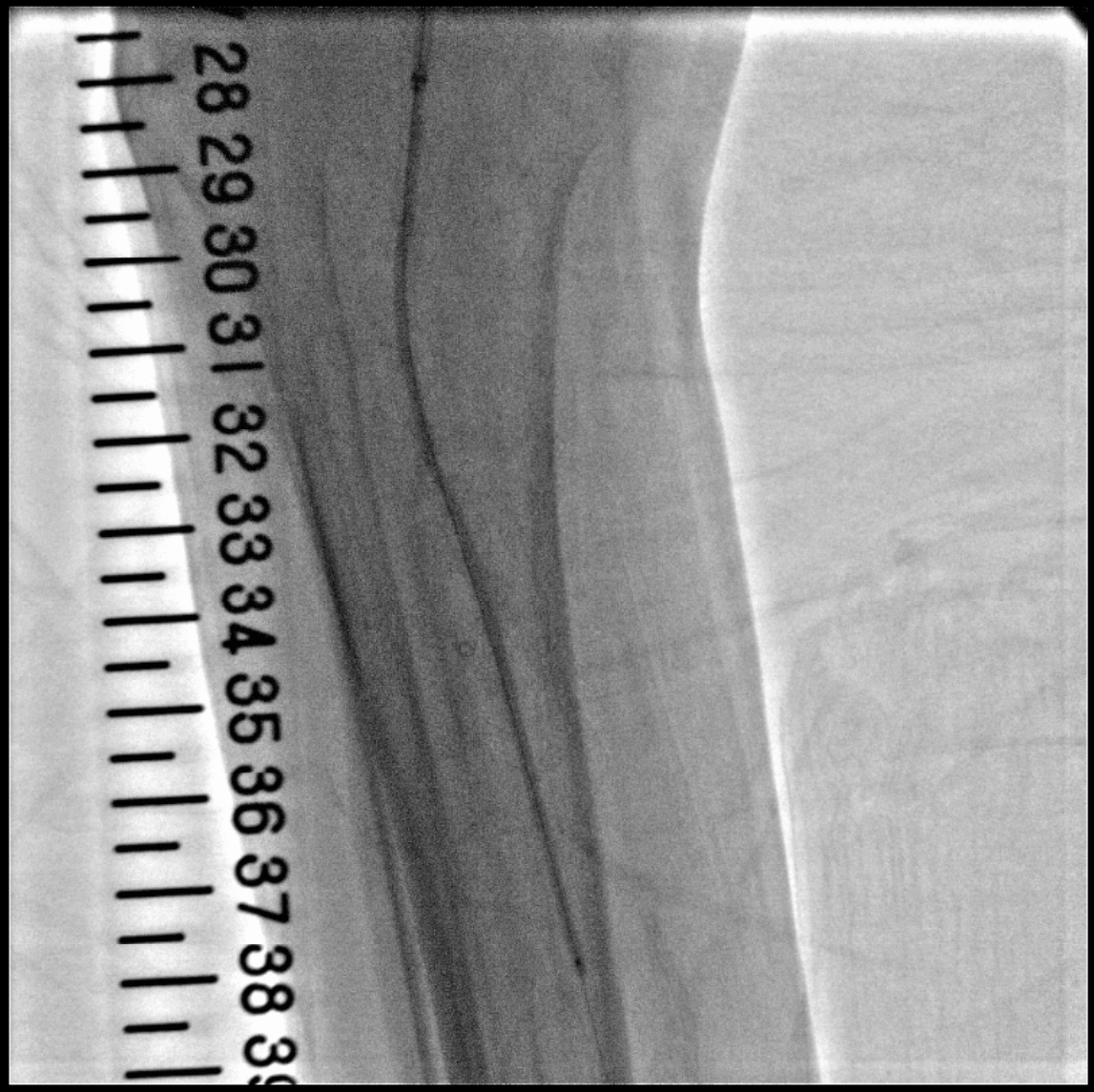


# Angioplasty for PTA (prox.)

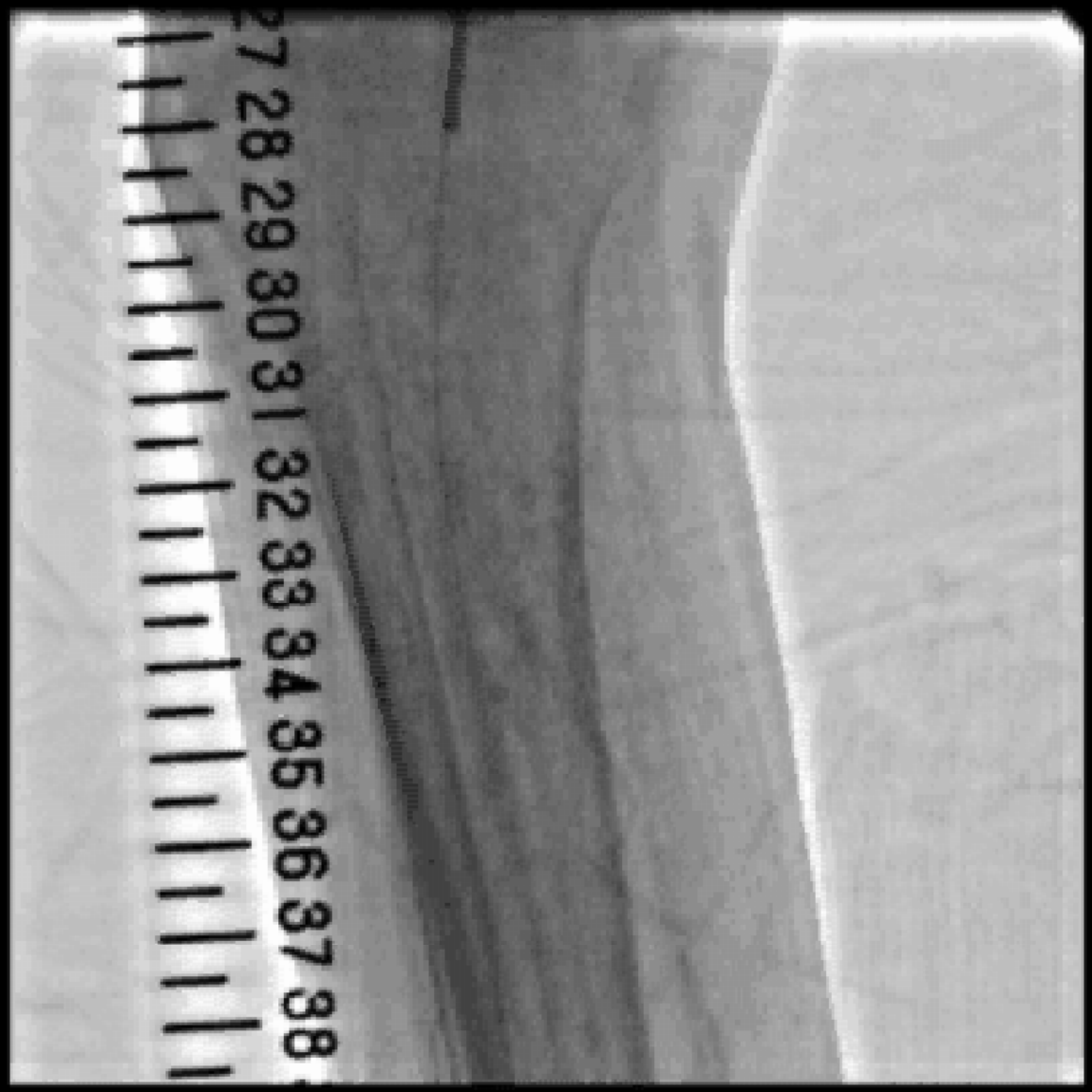
Amphilion-deep
2.0x120mm

# Angioplasty for POP-PTA

Amphilion-deep
2.0x120mm



# Final angiography

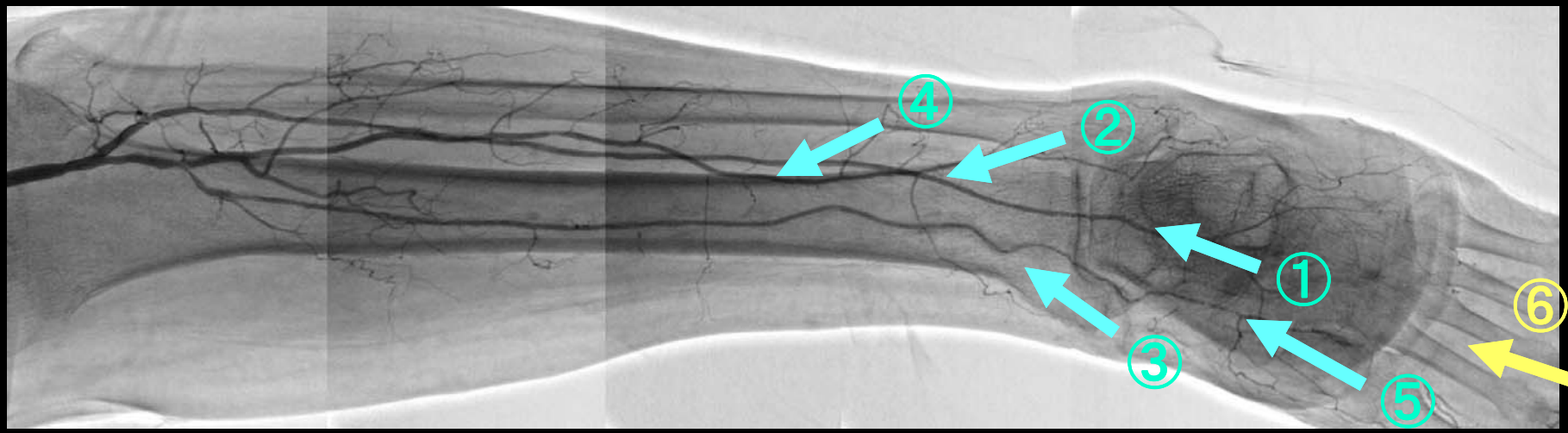


# Bi-directional Wiring with Distal puncture

Case

# Distal puncture in BTK intervention

1. Dorsalis pedis (AP cranial)
2. Distal anterior tibial artery (Ipsi-lateral ob.)
3. Distal posterior tibial artery (Contra-lateral ob.)
4. Distal peroneal artery (Ipsi-lateral ob.)
5. Planter arteries (AP cranial)
6. Digital arteries



# MEET Combo 2011 - 2b - Approach & Accesses

## Retrograde percutaneous digital artery access: pushing forward limits and indications for foot revascularization.

Marco Manzi, MD, Luis Mariano Palena, MD, Giacomo Cester, MD
Policlinico Abano Terme, Abano Terme(PD), Italy

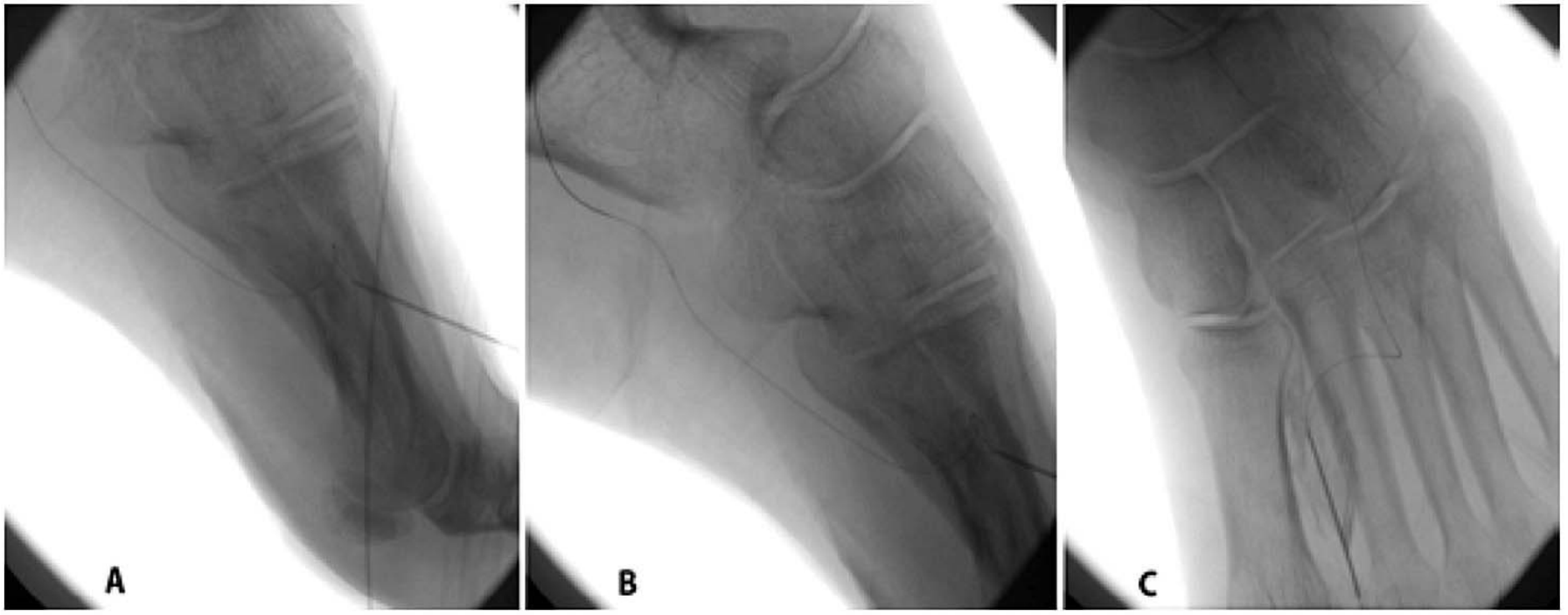



**Figure 3.** Puncture and wiring of first metatarsal artery. (A-B) latero-lateral view and (C) antero-posterior view, shows the guide-wire in the LOOP and lateral plantar artery, through the first metatarsal artery access.

# Case 80M

| | |
|---|---|
| Diagnosis | PAD(CLI), DM |
| Severity | Fontain IV, Rutherford 6 |
| Target | BTK |
| Lesion type | CTO |
| Date of EVT | 2011.3.8 |

EVT before BK amputation.

# Control Angiography

Cardiovascular Center – Tokeidai Memorial Hospital – Sapporo, Japan
234837-20110308

# Antegrade wiring for PO-CTO

Ruby hard / Prominent

# Angioplasty for POP-PT

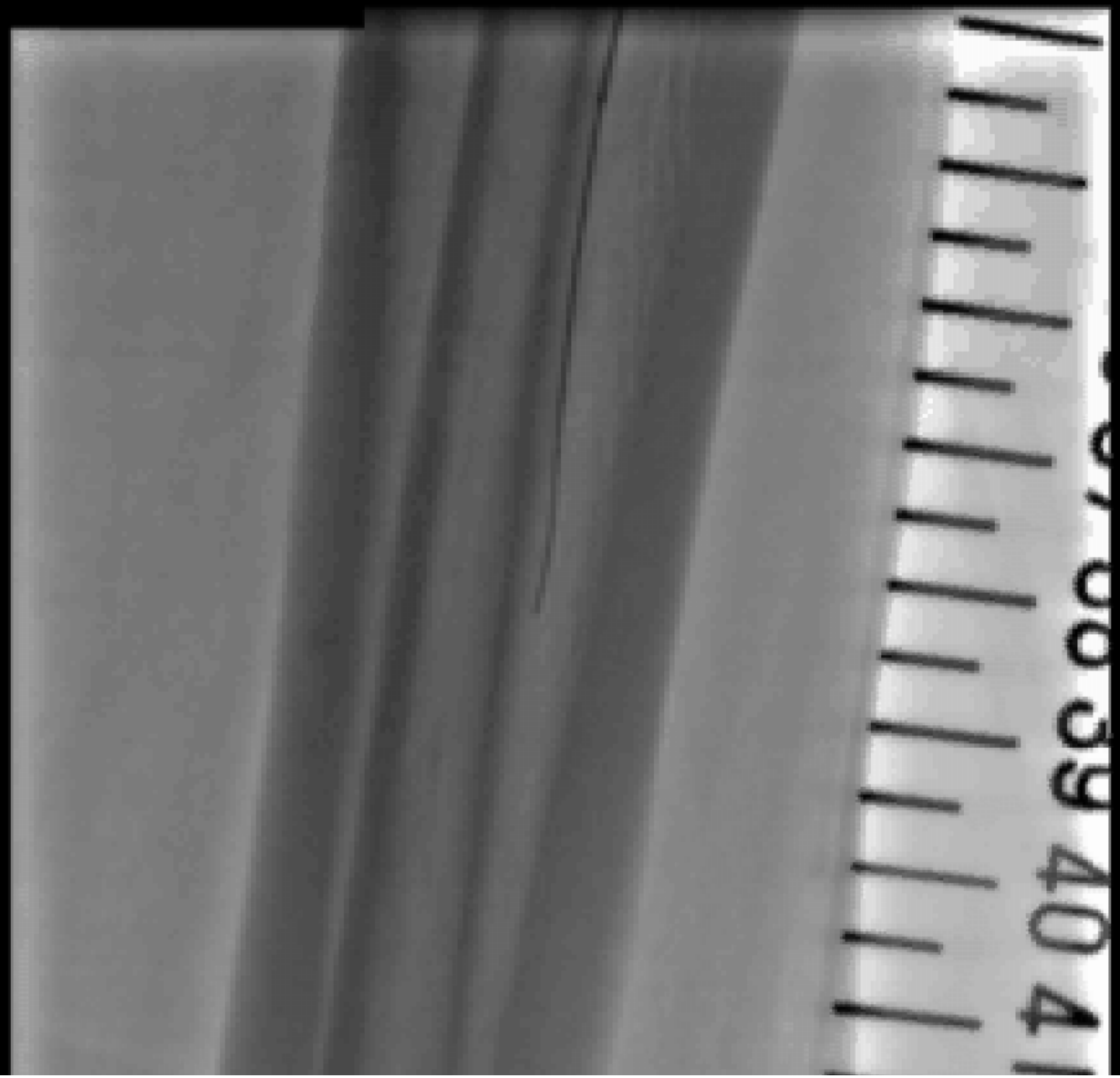
Fennec 3.0x40mm

# Angiography after ballooning

# Antegrade wiring for ATA-CTO

Ruby hard →
Astato XS9-12

Guidewire was stuck in
Subintimal space.

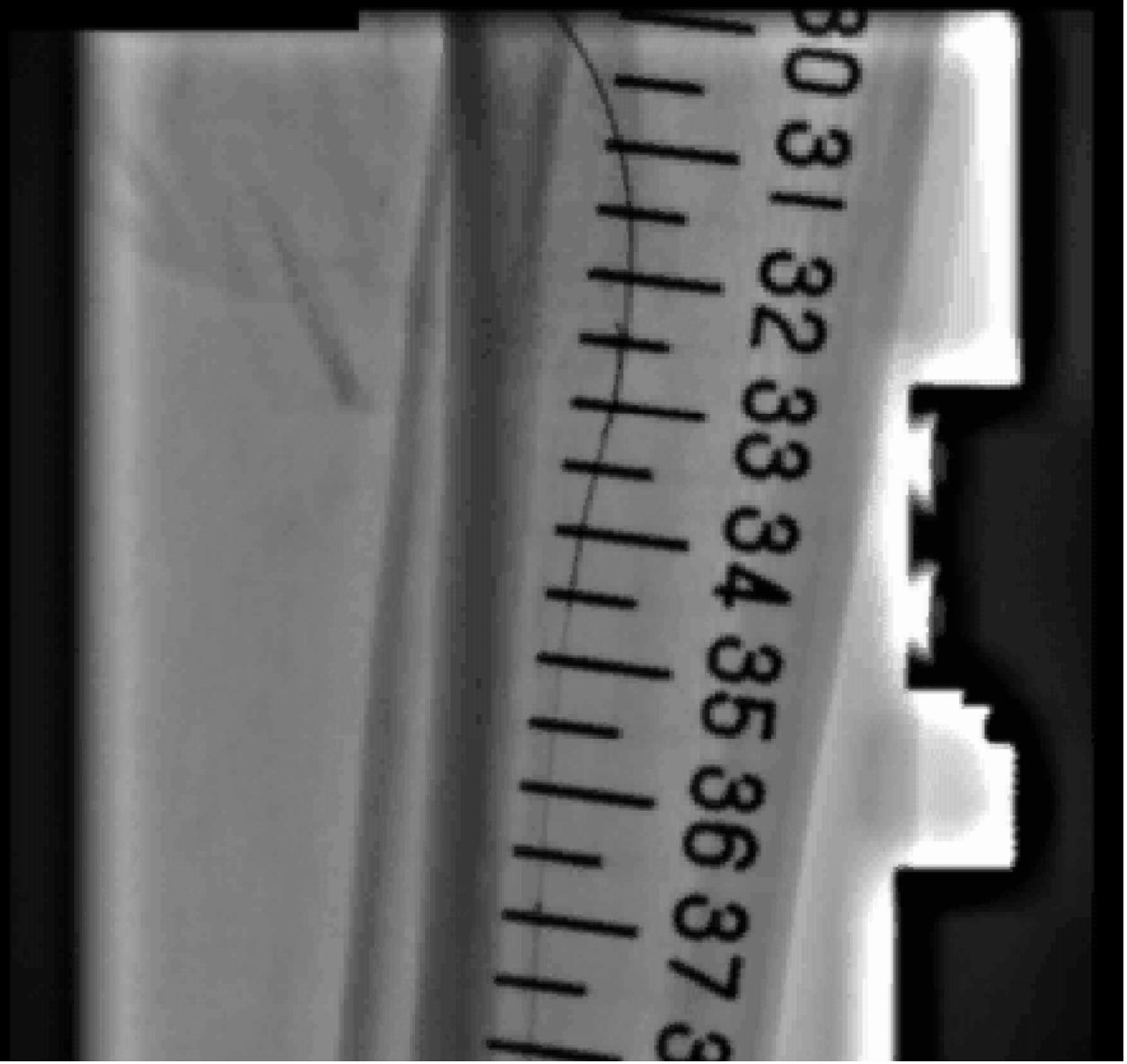


# Angiography for distal puncture

Distal ATA (above ankle) was punctured using 22G needle.

# Bi-directional wiring for ATA-CTO

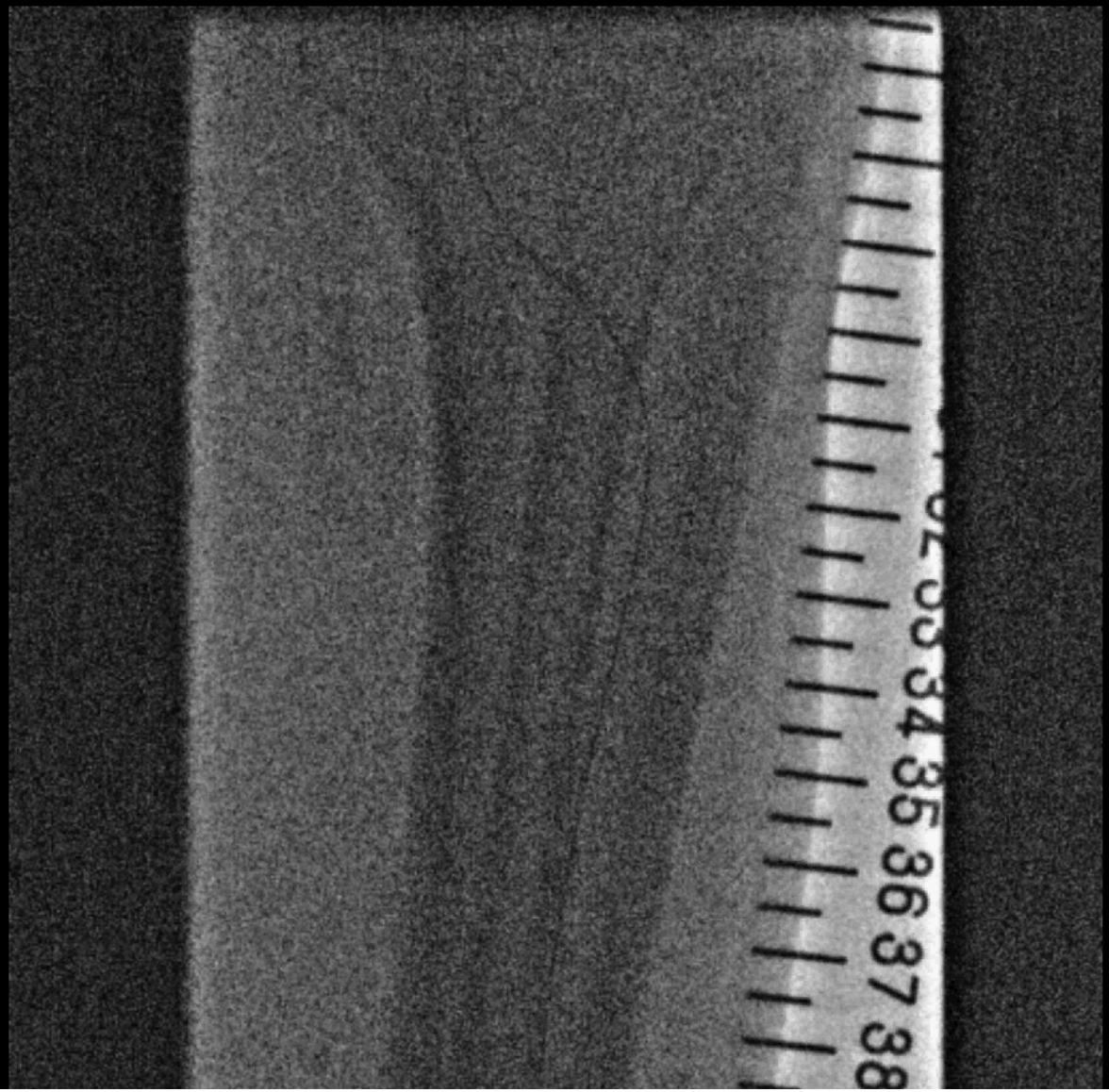
Astato XS9-12 for antegrade.
Cruise for retrograde.



# Reverse CART

Fennec 3.0x40mm

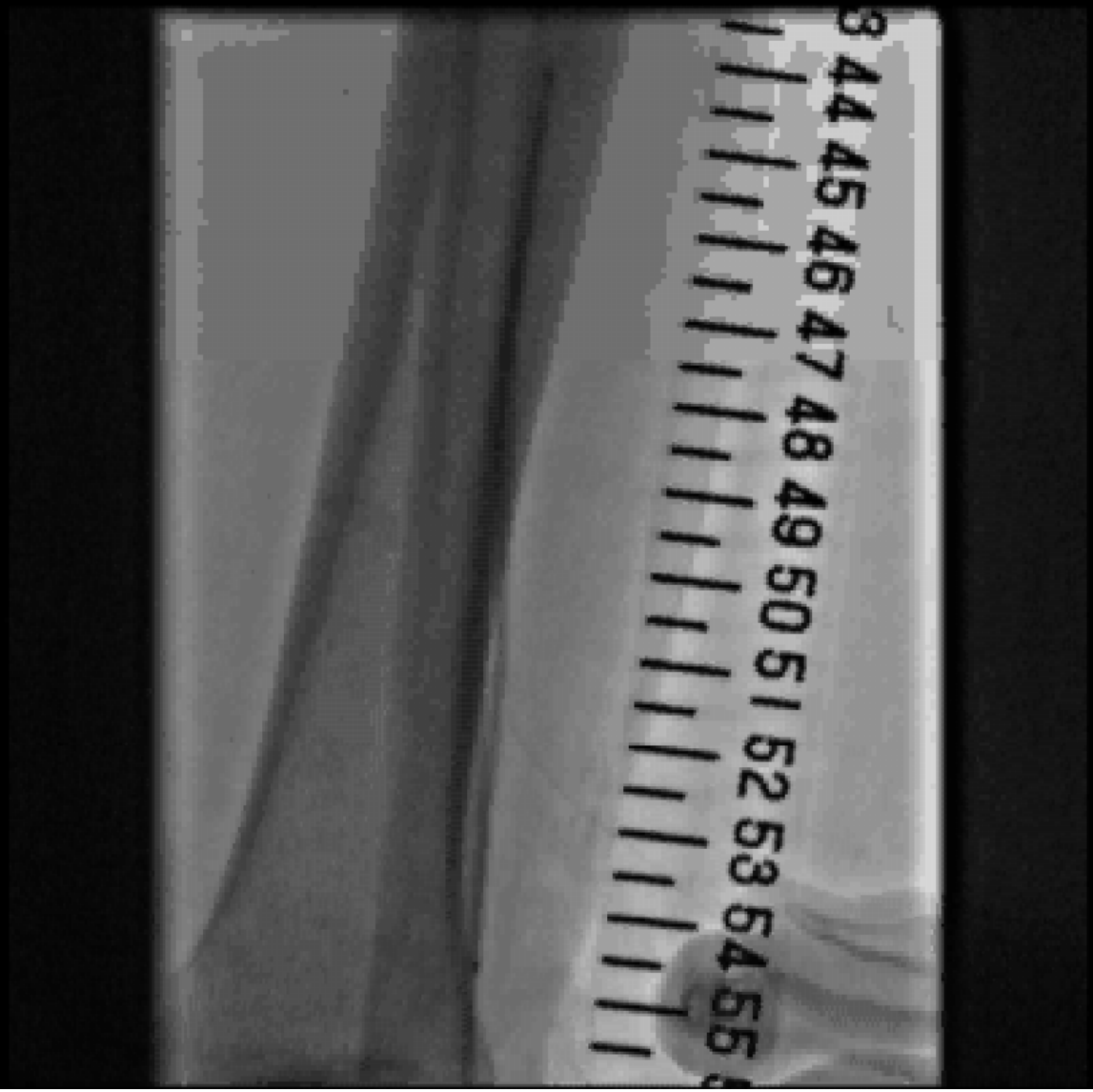
# Reverse CART



# Angioplasty for ATA (distal)

Amphilion-deep
2.5x120mm

Prominent at distal ATA puncture site was removed during ballooning,



# Angioplasty for ATA (prox)

Amphilion-deep
2.5x120mm

# Angiography after POBA

# Bi-directional Wiring using Collateral Channel Trans-collateral Angioplasty (TCA)

Case

# Case: 83M

Diagnosis: CLI (Rutherford 5)

Risk factors: Hypertension
Diabetes Mellitus
Dyslipidemia
Ischemic heart disease

# Control angiography

# Control angiography (Below-the-knee)

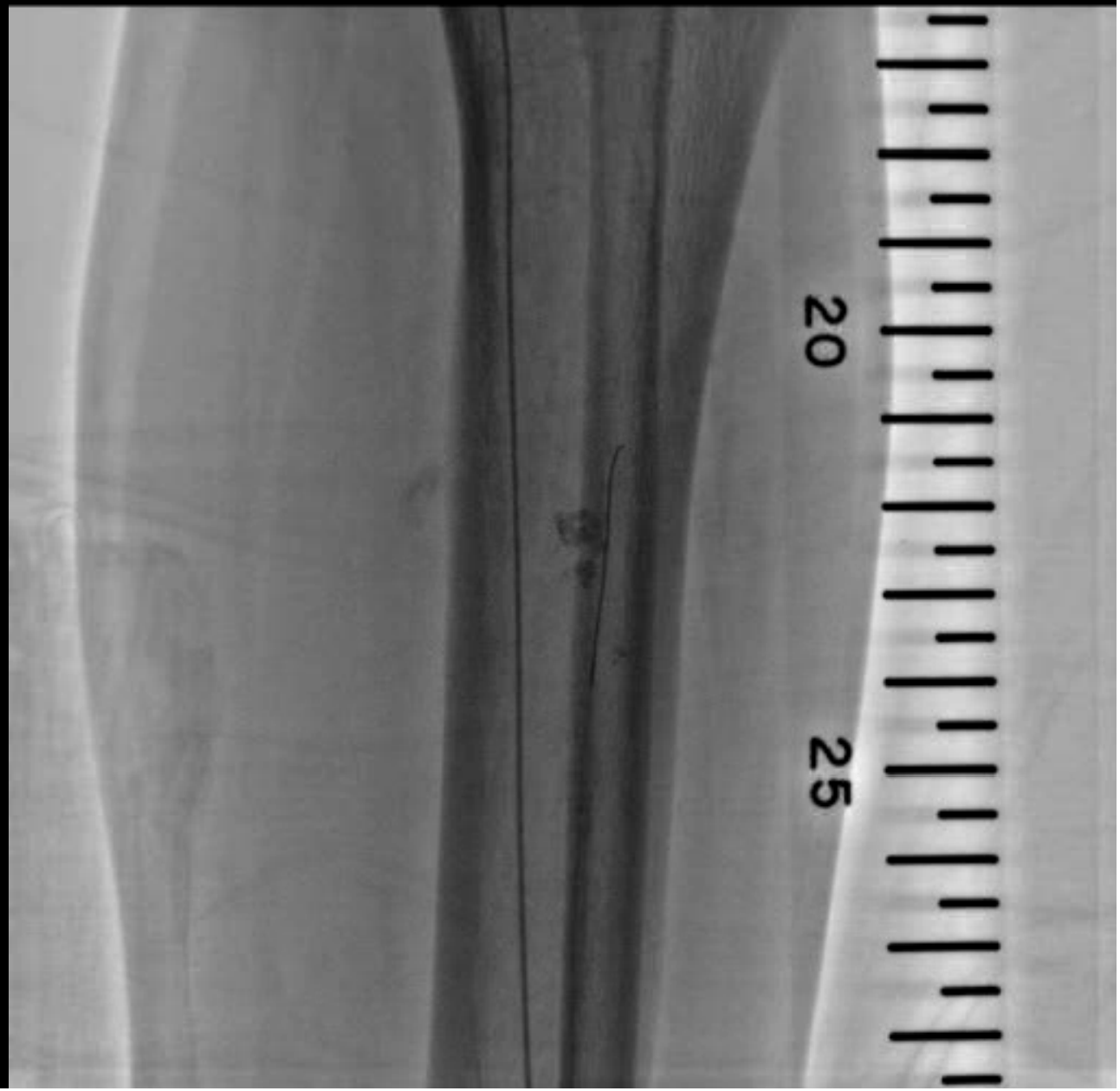
# Selective angiography of a collateral to ATA

# A guidewire was advanced through the channel

Cruise
Prominent

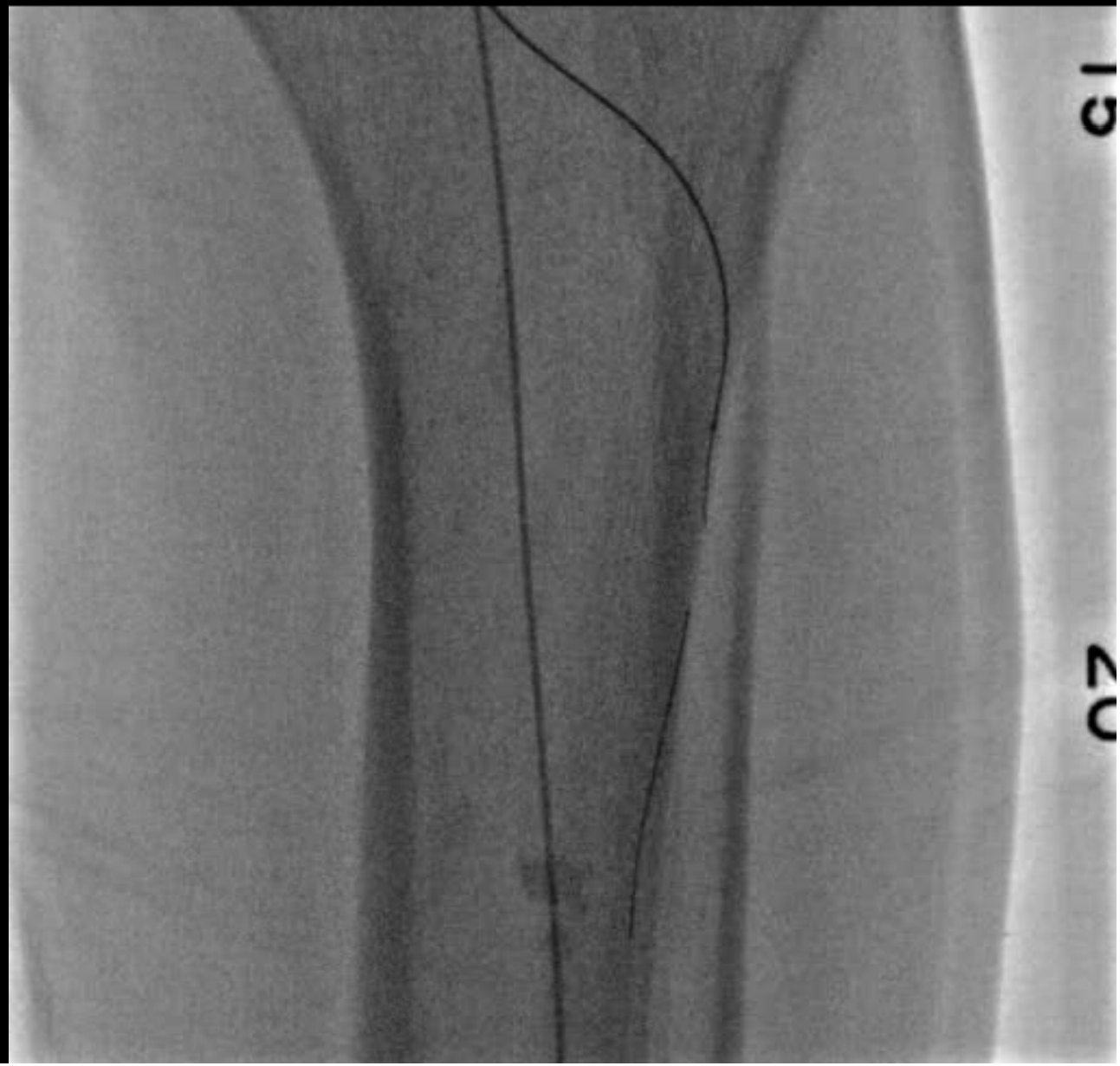
# Retrograde wiring to the ATA-CTO lesion

Ruby hard 9g



# Antegrade wiring into the ATA-CTO

Astato XS9-12
Prominent



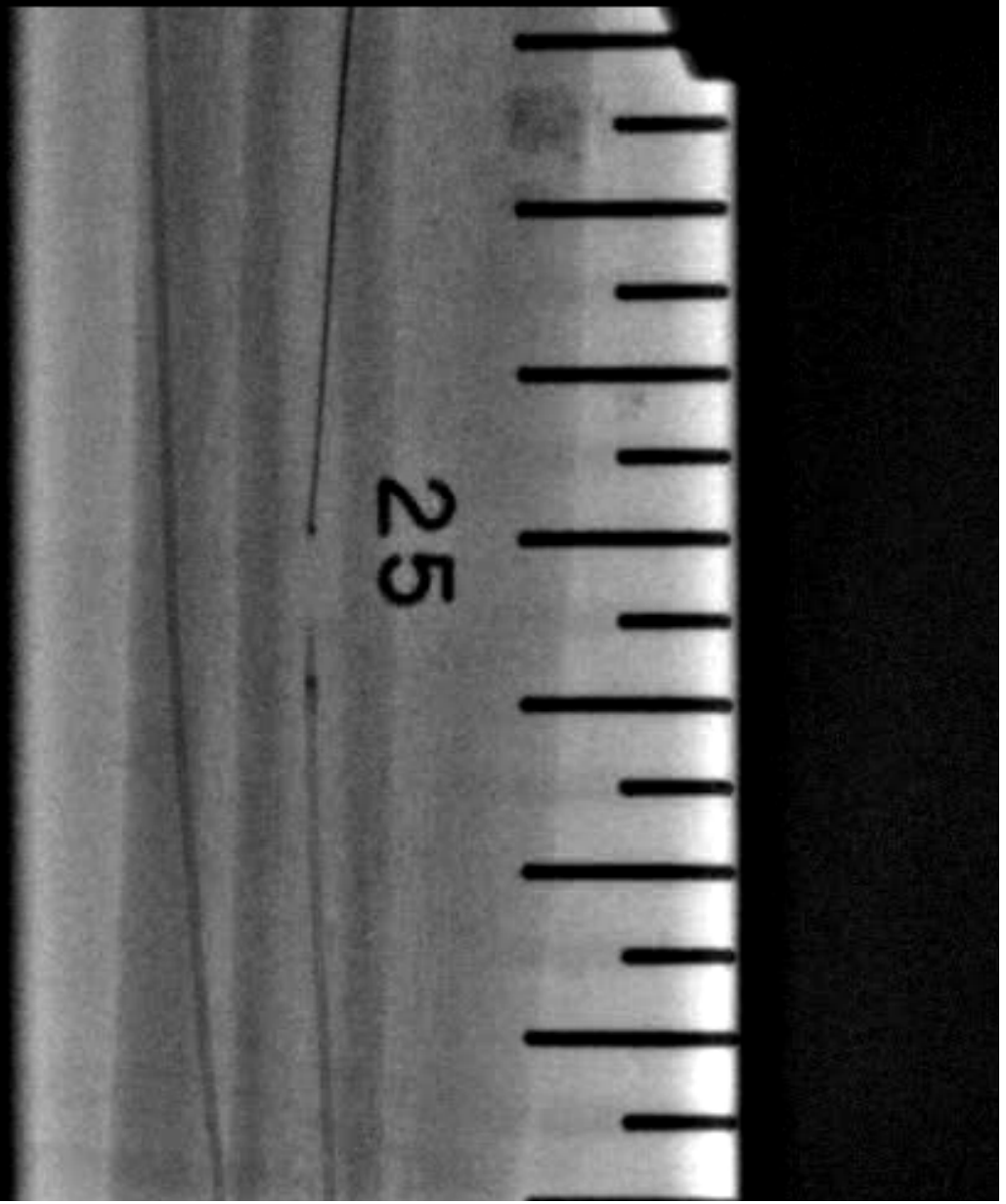
# Wire Rendez-vous method

## Ante

- Astato XS9-12
- Prominent

## Retro

- Cruise
- Corsair



# Antegrade wiring to DP

# POBA for ATA

Amphilion-deep
3.0x120mm

# Angiography after POBA for ATA

# Selective angiography at DP using Corsair

# Knuckle wiring to the medial plantar artery

Cruise
Corsair

# Selective angiography at the distal PTA

# Wire Rendez-vous method within PTA

# Advance antegrade micro-catheter beyond CTO

# POBA for PTA-plantar artery

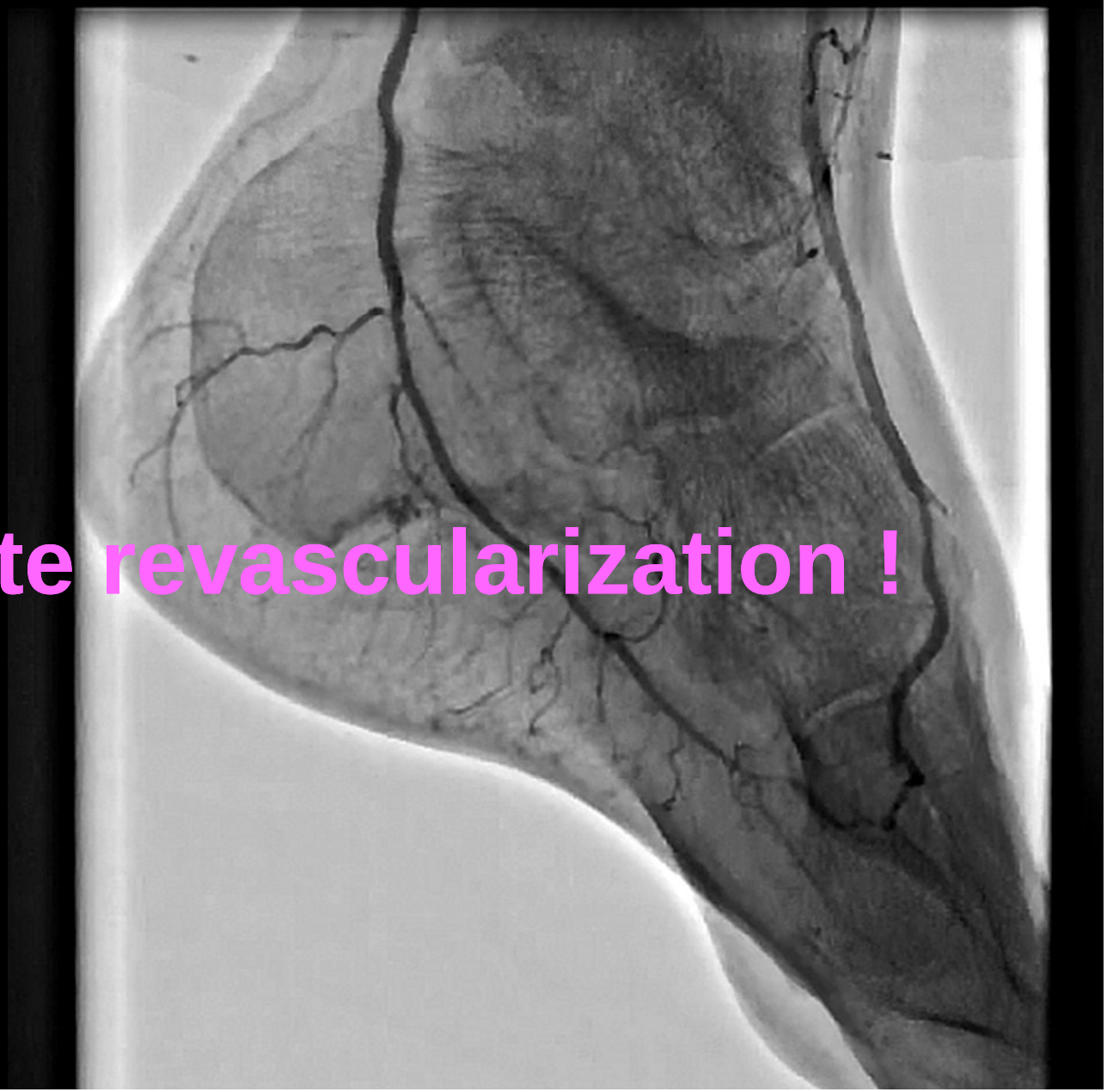
Amphilion-deep
3.0x120mm

# POBA for proximal PTA

Amphilion-deep
3.0x120mm

# Final angiography

# Final angiography



**Complete revascularization !**

# EVT for BTK-CTO in Tokeidai Memorial Hospital

## Jan. 1, 2010 ～ Dec.31, 2010

In 2010, we performed 172 EVT for CLI patients, and limb salvage rate at the 1st year was 95%. By using bi-directional wiring techniques, we can expect high initial success rate even in the complex BTK intervention.

# Complex BTK lesions

1. Long CTO
2. Severely calcified lesion
3. No distal artery situation

## Crossing calcified lesion

- New guidewires
  - Conquest 40g (Asahi Intec)
  - Nexus 30g / 50g (FMD)

## Dilate calcified lesion

- ~~Debulking devices~~
  - ~~Rotablator~~
  - ~~Diamondback~~

- New device to dilate calcified lesions without distal embolism

# Complex BTK lesions

1. Long CTO
2. Severely calcified lesion
3. No distal artery situation

In some CLI patients, many foot small arteries have already occluded. And also, arterial-arterial connections among below-the-ankle arteries have been lost.

We need more aggressive vascular intervention for these patients subset.

## Below-the-ankle (BTA) Intervention

Friday, Apr. 27 : AM11:45 – PM12:50
Challenging Case Competition with Expert's Review

# Take Home Message