Angiographic Consideration and Simple Wire Selection for CTO-PCI

Take Home Message

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Roadmap to CTOs

IVUS guided wire handling

unknown factors (unexpanded, stenosed tissues, vessel shrinkage, intimal / PL channels)
limitations of materials, properties of wire

kissing wire
knuckle wire

antegrade wire techniques
Miracle tapered CTO wires
tapered floppy polymer wire

new CTO devices

IVUS guided reverse CART

014 snare wire
Corsair/ RG-3
PL channels
Q: What is the most important point while doing ANTEGRADE APPROACH to succeed “CTO” procedures?

A: Take good angiography and Read it completely before PCI.

During PCI,
1. DO gentle wire manipulation.
2. See angiography from various directions.
3. Take contra-lateral injection, if necessary.
4. Limit use of Conquest.
How-Master of CTO
Osamu Katoh

Q: What is the most crucial point in examining CTO ANGIOGRAM to succeed “CTO” procedures?

A: Differentiate reliable information from just speculation: completely imagine CTO segment from angiography (or CTA), not speculation.
Analyzing the CTO with Angiography

- Side branch at the entry
- Blunt stump
- Bridging collaterals
- Proximal
- Long occlusion
- End of the occlusion bifurcation
Imagination

Contralateral injection
Digestion of angiography

- Find stump
- Find normal island
- Find microchannel
- Refer to MSCT angiography
- Find intercoronary channels for retrograde
Find the stump with MSCT
IVUS Guided Technique for Looking For the Entry

Complex CTO of LCX

Where is the origin?

IVUS in LA branch

CTO

Entry point

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The majority (78%) of angiographic CTOs were ≤99% occluded by histopathologic assessment.

Angiographic CTOs frequently correspond to less than complete occlusion by histologic criteria.

Big Tips Are for Waiters!
Microchannels: Key for crossing…

0.010” tip

0.007” microchannel

0.014” tip

0.007” microchannel
• **One-Piece Core Wire**
  - Supports the entire guidewire from the proximal to the distal end. This design transmits the guidewire torque fully from one end to the other.

• **Tapered Tip**
  - 0.009” (0.25mm) tapered tip facilitates trackability in tortuous vessels such as fine septal channels with corkscrew aspect.

• **Flat Core Tip**
  - Provides flexibility and excellent shaping memory.

• **Smooth Tapered Core**
  - Enhances support performance which provides excellent guidewire trackability.

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**X-treme wire**

- 16cm Polymer Sleeve & SLIP COAT®
- 16cm Radio-opaque spring coil
- Stainless Steel Core
- PTFE Coating
HI-TORQUE CROSS-IT™ XT Coronary Guide Wire

Hydrocoat hydrophilic coating for low friction and smoother lesion access

Tapered 0.010” tip coil facilitates access of highly stenosed lesions

Core-to-tip design for precise steering
Evolving strategy

Any kind of CTO

Initial soft/tapered hydrophilic wire

More stiffer specialized wire according to lesion characteristics
Parallel Wire Technique

Single OTW Support Cath.
Parallel wire technique

Parallel wire technique with ASAHI Miracle Brothers and Conquest wires
Analyzing the CTO

Proximal stump

Distal stump
Analyzing the CTO

LL 7.85 cm
Occlusion morphology, branch points and trajectory

Vessel tortuosity

Endoluminal Course and calcification
Try to find
Intercoronary collaterals for retrograde approach

RAO cranial or RAO caudal for at least 30 seconds
Forgotten vessel:
Intercoronary collaterals for retrograde approach

Microcatheter angiogram help the visualization of intercoronary collateral

Fielder FC with Finecross
Retrograde approach

Retrograde wiring

Reverse CART

Successful retrograde wiring
Device description

Polymer covered guide wire with extra support for effortless movement in tortuous anatomy

Stiffness

Tip Load = 0.8 g
Asahi SION

- Durable tip with outstanding shape retention
  - Possible to treat multiple lesions with one wire
- Advanced torque performance even in extreme tortuosity
  - Easier vessel selectivity, even after an acute angle
- Flexible shaft and atraumatic tip
  - Employ the wire in a variety of situations stress-free
Retrograde wire crossing
Fielder FC/XT/SION-Miracle3-Conquest Pro
ASAHI Corsair Microcatheter

TERUMO’s FineCross MG
Conclusions..

- Complete dissection and digestion of angiography with MSCT/IVUS is basically important in CTO-PCI
- Tapered hydrophilic wire and step-up wire escalation is essential step in any kind of CTO-PCI
- Smart supporting micro-catheter improve wire advancement to target land.
Never give-up

It is over and before throwing away to, it does not think to dry that it is one it is impossible

Stop if the procedure is harmful to patients
SAVE THE DATES!

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