False Lumen Stenting with Spiral Dissection is Rescued by Retrograde Rewiring

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Case information

• Patient demographics
  Age: 59 years old
  Gender: male

• Past medical history
  no known hypertension or DM

• Risk factor
  Smoking (1PPD for 38 years)

• Clinical presentation
  Incidental finding of ECG revealed Q wave with mild ST elevation over V1-3 and T wave inversion over V3-6 during health exam
Echocardiography

• 1. Dilated LA and LV

• 2. EF M-mode: 32%, Simpson’s method: 31% with severe hypokinesis of LV anteroseptal, anterior and apical wall

• 3. Trivial PR and trivial TR
LCX is patent and LAD is CTO
LAD CTO and collateral from DB2
Severe stenosis at proximal RCA and distal PLA
PCI Strategy

• 1st PCI for LAD by another interventional cardiologist was tried with antergrade approach (Fielder XT-A) but failed

• This time, PCI for LAD CTO with retrograde (from DB2) approach, J-CTO score: 3-4

• Vascular access: Right radial artery approach with 7F Kimny guiding catheter
SION wire from retrograde (DB2) as a guide ➔ kissing wire technique
Gaia 2nd with Crusade double lumen catheter puncture from antegrade ➔ Failed
Gaia 2nd under Finecross microcatheter (MC) puncture from retrograde ➔ Failed
Gaia 3rd under Finecross MC from antegrade (Kissing wire technique) → success, wire was changed to SION via MC
Pre-dilatation with 2.0x12mm balloon
Post balloon angioplasty
Planed stent landing zone
Pre-dilatation with 1.5x12mm balloon for DB3
Xience Xpeidtion 2.75x38mm DES
Post-dilatation with 3.0x15mm NC balloon
Post stenting and after give intracoronary NTG
2.0x30mm balloon at 4bar
Wire was pulled out incidentally
Distal stent edge dissection, next step?

- 1. Close
- 2. Another overlapping stent for distal stent edge dissection
Unfortunately, SION wire was into false lumen but we didn’t recognize it at that time
Xience Xpeidtion 2.25x8mm was deployed into false lumen and spiral dissection developed. Distal LAD septal branch were not seen and procedure was terminated due to the P’t was intolerant to lying for a long time
Two days later
Proximal RCA s/p stenting with Xience Xpedition 4.0x15mm DES
SION wire from DB2 retrograde approach under 150cm Finecross MC
Retrograde Finecross MC was in stent true-false junction (high resistance was noted)
Rendezvous method in guiding catheter and successful wiring into true lumen

Moo Hyun Kim; Catheterization and Cardiovascular Interventions 75:117–119
Pre-dilatation with 1.5x6mm and 2.5x15mm NC balloon then the part of distal stent in false lumen was crushed
2.0x30mm balloon at 8bar for distal dissection
Xience Xpedition 2.5x48mm DES deployed and crushed previous stent in false lumen
Post-dilatation with 2.5x15mm NC balloon
2.0x30mm balloon for distal spasm
Finally, distal LAD septal branch were recovered
Summary

• Never pulled out wire before terminating procedure
• Intravascular image should be reviewed slowly and carefully
• Retrograde rewiring is a rescue method for false lumen stenting in CTO case
Thanks for your attention