A Challenging Case of Successful
Minimum Contrast PCI for RCA-CTO

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Background

- Treatment of coronary artery disease (CAD) with CKD is one of the remaining difficulties.
- We experienced a case of RCA CTO in a patient with CKD; we could finally achieve a successful result with minimum-contrast use.
Case presentation

- A 82 years-old-man
- Worsening effort angina (CCS: class II)
- HT, DM, Dyslipidemia, Smoking
- Renal dysfunction (eGFR: 35.7 ml/min./1.73m²)
- He underwent CABG in 1997.
  (LITA to LAD, RA to #4PD, #9-#12-#14-#4PL)
LCX #12/#13: severe stenosis
LCX: not observed to and for: LCX graft occluded

LAD#6-#7: severe stenosis
LITA to LAD: patent
SV graft to #9: patent
SV graft to #4PD/ #12-#4PL: occluded
RCA #2: CTO lesion

RCA collateral flow via LCX SV graft
RCA#2: 100%
LAD#6-#7: 99%
LCX#12: 90%
#13: 90%

CABG in 1997
LITA LAD
Ao – SV #9 #12 #14 #4PL
#4PD
PCI for RCA with antegrade approach
2011/12/9

- Antegrade system
- Approach; Rt. Brachial
- GC; RCA back up 6Fr AXESS power version type S
- GW; Runthrough XF Fielder XT Wizard 3

but the guidewires were not crossed
Strategy

Continuing antegrade approach with more stiff wires or Retrograde approach or PCI for SVG

① Via occluded SVG to #4PD or
② Via LCX to remaining SVG form #14 to #4PL

Risk of no flow Long patency

Contrast volume

Contralateral injection

Kissing wire technique
PCI for RCA with RETRO

- Retrograde system
  - via occluded SV to #4PD
- Approach; Lt. Brachial
- GC; AL-1 6Fr AXESS power version type S
- GW; Runthrough XF, X-treme, SUOH, Conquest Pro
- MC; Finecross, Corsair
PCI for RCA with RETRO

Retrograde system via occluded SV to #4PD

Approach; Lt. Brachial GC

AL 16 Fr AXESS power version type S GC

GW; Runthrough XF, X-treme, SUOH
Reverse CART

Retrograde wire externalization

Approach via occluded SV to #4PD

Lt. Brachial GC 16 Fr AXESS power version type S GC - 16 Fr AXESS power version type S

GW Runthrough XF, X-treme, SUOH
PCI for RCA with RETRO

Retrograde system via occluded SV to #4PD

Approach; Lt. Brachial

GC 16 Fr AXESS power version type S

GW; Runthrough XF, X-treme, SUOH, Conquest

PPro MC; Finecross, Corsair
6F in 4.5F

4.5F: Cokatte

Xience V 2.5mm X 28mm
6F in 4.5F

Retrograde system via occluded SV to #4PD Approach; Lt. Brachial GC AL 16 Fr r AXESS power version type S GC AL - 16 Fr AXESS - power version type S GW Runthrough XF, X-treme, SUOH, Conquest PP ro MC Finecross, Corsair Xience V 2.5mm X 28mm Xience V 2.75mm X 28mm Xience V 3.5mm X 23mm
PCI for RCA with RETRO

Retrograde system via occluded SV to #4PD

Approach; Lt. Brachial

GC 16 Fr r AXESS power version type S GC

GW; Runthrough XF, X-treme, SUOH, Conquest PP

MC; Finecross, Corsair
Final CAG

Contrast volume during PCI: 10ml
We could successfully revascularize the calcified and bended RCA CTO lesion in a CKD-patient with RETRO and with minimum contrast use.

Minimum – contrast PCI with RETRO requires a variety of techniques and devices, which is greatly beneficial for CKD patients.