PCI for unprotected LMT Complicated by CHF

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Case

Case: 80 y.o. Female

Clinical Course:

1998.8  ACS (RCA)
  proximal RCA Multilink φ3.5mm, distal RCA Multilink φ3.0mm.
  CAG: proximal LAD 100% (←RCA PDA).

2006.10.14  Admission for treatment of CHF.
  CAG was performed because of new onset rest angina.
  UCG: wall motion antero-septal severe hypo EF35%
  11.10  CAG: LMT ostium 99%, proximal LAD CTO
ECG on admission
UCG on admission

AR I/IV  MR II/IV  TR I/IV  PR I/IV

LAD 48.3mm  LVDd 58.1mm

EF 35.1%  FS 17.0

Wall motion: ant-sept severe hypokinesis

Pleural effusion(+)(R<L)

Pericardial effusion(+)

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Wall motion: ante-septal severe hypokinesis
Perfusion delay: mid anterior persistent delay
Delayed enhancement: subend antero-septal (+)
Control CAG (LCA)

LCA ; LMT ostium 99%, proximal LAD CTO, RCA → LAD collateral(+)

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Control CAG (RCA)

LCA ; LMT 99%, LAD CTO, RCA → LAD collateral(+)
RCA ; proximal and distal STENT ISR(-)
Questions

- How do you treat the unstable LMT case complicated by CHF, PCI or CABG?

- If PCI is selected, what is your strategy to fix this case successfully.
The patient wanted to receive

complete coronary revascularization by PCI.
Strategy for Complete Revascularization

# PCI for non-protected LMT ostial lesion under IABP support.

# Staged PCI for LAD CTO after improvement of LV function with LCX and Diagonal revascularization.
PCI procedure

Approach: Rt. transfemoral, IABP Support, G/C: mach1 FL4 ST SH 8Fr, G/W; Neos Fielder
Pre dilatation; φ 2.0x20 MAVERICK2, STENT; φ 3.5x13 Cypher 22atm,
Final CAG
Summary of the procedure

# Stabilizing the hemodynamic status during procedure under IABP support.
# Using Judkins type guiding catheter with sideholes and keeping coaxial alignment
# Retraction of the guiding catheter 1-2 cm into the aorta prior to balloon inflation and stenting
# The proximal 1-2 mm tip of the stent extended into aorta and postdilated to make flarelike appearance
Control CAG (2nd PCI)

Proximal LAD; CTO, RCA → LAD collateral (+), RCA; STENT ISR (-)
IVUS (Diagonal branch)

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Antegrade Approach

Pararellel Wire Technique; TRANSIT + Miracle12 / TRANSIT + Confienza Pro12

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Pre Dilatation

LAD B/C; φ 2.0x20 Ryujin PLUS
IVUS (LAD)
IVUS (Diagonal branch)

Guide Wire ; Confienza Pro12

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POBA (Diagonal branch)

LAD B/C; φ2.0x20 Ryujin PLUS
IVUS (Diagonal branch)

Pre  Post
Kissing STENTing

LAD; φ3.0x33 Cypher, Diagonal; φ2.5x28 Cypher 16atm, FINAL KBT; SDS 20atm
Final IVUS (LAD)
Final IVUS (Diagonal branch)
Final CAG
PCI for unprotected LMT Complicated by CHF

- still challenging and controversial
- may cause hemodynamic collapse if failed
- needs precise estimation of viable myocardium
- Severe MR cannot be reversed merely by PCI revascularization

- In the case of ACS, PCI is the quickest method to establish revascularization for critical myocardial ischemia
- High success rate and long term patency with DES in complicated lesions including CTO make it possible to establish complete revascularization by PCI