A Case of Extensive Coronary Dissection from LMT to LAD and LCx after PCI

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Case Presentation

【Case】A 67 year-old woman
【Chief complaint】Chest discomfort
【Coronary risk factor】Hypertension, Dyslipidemia, Obesity
【Present Illness】A 67 year-old woman underwent emergent CAG and PCI for acute myocardial infarction in May, 2011. CAG revealed thrombotic occlusion of LAD#6. After aspirating thrombus and POBA to #6, a couple of bare metal stents(Vision 3.0x28) were implanted in #6-7. PCI was completed successfully.

Follow up CAG was performed 8 months after the PCI, CAG revealed in-stent restenosis in LAD#6 proximal lesion.
【Prescription】aspirin 100mg, clopidogrel 75mg, furosemide 20mg, amlodipine 5mg, rabeprazole 10mg, rebamipide 200mg
ECG and Echocardiography

LVEDD/ESD=52/29mm
EF 75.1%  LAD=42mm
CAG

RAO CAUDAL VIEW

LAO CAUDAL VIEW
PCI to #6 (in-stent restenosis) with Cutting Balloon

Flextome 3.0x10
CAG after PCI with Cutting Balloon

RAO CAUDAL VIEW  

LAO CAUDAL VIEW
IVUS after PCI with Cutting Balloon
CAG after PCI with Cutting Balloon(2)
Extensive Coronary Dissection from LMT to LAD and LCx
Implanting two stents as “T-Stent”
KBT and post dilatation were done

Implant XienceV 3.5x23 to #11-13, and XienceV 3.5x23 to #5-6
KBT to #5-6(Aquamarine3.5x15) and #5-11(Sprinter Legend 2.75x15)
POBA to #5(FORTIS II 4.25x15)
Final CAG

RAO CAUDAL VIEW

LAO CAUDAL VIEW
Comparison of treatments for in-stent restenosis

Cutting balloon angioplasty (CBA) did not reduce recurrent in-stent restenosis (ISR) and major adverse cardiac events, as compared with conventional PTCA. However, CBA was associated with some procedural advantages, such as use of fewer balloons, less requirement for additional stenting, and a lower incidence of balloon slippage.

Albiero R et al, JACC, 43: 943-949, 2004

CBA is a safe and efficient technique for treatment of ISR, with immediate results similar to atheroablaction and better clinical outcomes at follow-up. The lumen loss at follow up was lower in CBA group compared to ROTA, STENT (BMS), and POBA group.

Conclusion

After dilating the lesion of in-stent restenosis in the LAD ostium with Cutting Balloon, an extensive coronary dissection from LMT to LAD and LCx arose. But we managed to escape causing fatal complications by implanting stents to suppress the dissection, as””T-Stent””.

Usefulness of Cutting balloon in treatment for in-stent restenosis lesion has been recognized. But making use of cutting balloon near the LMT, we cannot pay too much attention to avoid causing coronary dissection of LMT. And it was suggested that twin lumen microcatheter and IVUS helps greatly to avoid fatal complications more definitely when coronary dissection arises.