A Case of ACS Patient With In-Stent Plaque Rupture After BMS Implantation

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Patient Profile

- 58 YO/ Male
- C/C : aggravated chest pain for 1 month
- CVDRF : HTN (10 Y), Smoking (40 PY)
- PHx: PCI on LAD (10 Y, NIR® stent)
- Vital sign: 120/70 - 68 - 20 - 36.5
- Lab: TC/LDL 191/134 mg/dl
  CK-MB/cTnl 0.6/0.06 ug/L
- ECG: NSR, ST-T change (-)
- TTE: 67%, no RWMA
- Clinical Dx: Unstable Angina
Myocardial SPECT
Baseline CAG: RCA

LAO 45°

Collateral flow (+)
Baseline CAG: LCA

LAO 45° & Cranial 30°  AP & Cranial 30°
Prior Stented Segments

In-Stent Restenosis or Thrombus?
Pre-PCI
IVUS
Finding
Focused IVUS Images

1. Proximal
2. MLA 3.32 mm²
3. Distal
4. Septal branch
Pre-PCI
OCT Finding
Focused OCT Images
In-Stent Plaque Rupture

: OCT vs. IVUS
POBA & Stenting / Final CAG

EES 2.75x23mm

EES 4.0x28mm
Post-PCI IVUS Finding

MSA 8.42mm$^2$
THANK YOU FOR YOUR ATTENTION
Histopathological Findings of New In-Stent Lesions Developed Beyond Five Years

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We analyzed 14 cases of new lesions inside implanted bare-metal stents. In every case, there was no angiographic restenosis within 3 years, but a new lesion was observed inside a stented segment at long-term follow-up (>5 years). Fourteen cases were evaluated: 9 with Wiktor stents, 2 with Palmaz-Schatz stents, and 3 with ACS Multilink stents. The interval from stent implantation to follow-up angiography was 63–147 months (89 ± 23). Thirteen lesions were treated by percutaneous coronary intervention (PCI) and stenotic tissue was obtained by directional coronary atherectomy (DCA) in 10 cases. All retrieved samples were composed of newly developed atherosclerosis facing the healed neointimal layer, and four samples showed histopathological findings of acute coronary syndrome. Stent struts were retrieved in four cases and no inflammation was observed surrounding them. Qualitative and quantitative analysis of stent struts was performed in two cases that showed no metal corrosion. These findings suggest that new atherosclerotic progression occurred inside the implanted stent without peristrut inflammation. © 2006 Wiley-Liss, Inc.
• HNL: healed neointima layer
• NL: newly developed atherosclerotic lesion