Stent Thrombosis after Left Main-stem Simultaneous Kissing Stents – How to resolve the tangle?

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I, Nigel Jepson, DO NOT have a financial interest/arrangement or affiliation with one or more organizations that could be perceived as a real or apparent conflict of interest in the context of the subject of this presentation.
Case presentation

• 72 year old male

• PC – 60 mins severe chest pain and dyspnoea

• PMH – DM – Type II
  Hypertension
  Cholelithiasis
  IHD (PCI - multiple procedures)

• Medications – Aspirin, Clopidogrel
  Simvastatin/Ezetimibe
  Irbesartan
  Metoprolol
  OHGA, Insulins
Case presentation

O/E – Unwell, diaphoretic, BP 100/70 mmHg, ST 130bpm, mild LVF
Biochemistry – Hb 123g/dL, Plt 361, Creatinine 97, Tnl <0.1
Case presentation

• Therapy in ED –
  600mg Clopidogrel
  Unfractionated Heparin – bolus/infusion
  Tirofiban infusion

• Urgent transfer to catheterization laboratory
Case presentation

PMH – IHD

• 3/2006 SES proximal LAD (2.5 x 18 mm), distal Cx (2.5 x 13 mm)
• 10/2006 PES x 2 (2.5 x 16, 2.25 x 24 mm), BMS x 1 (2.25 x 15 mm Tsunami) mid and distal LAD
• 8/2009 EES x 1 (2.5 x 18 mm) mid LAD (ISR)
• 3/52 before presentation – ZES LMS 3.0 x 24 mm/3.5 x 15 mm (SKS)
• Normal left ventricular function, no significant valvular disease
Procedure – LMS SKS (3 weeks earlier)
Another operator!

MLA 2.1mm²
Procedure – LMS SKS (3 weeks earlier)

3.0 mm balloon

3.5 x 15 mm ZES Circumflex
3.0 x 24mm ZES LAD
Procedure – LMS SKS (3 weeks earlier)

3.5 x 15 mm ZES Circumflex
3.0 x 24mm ZES LAD
Procedure – LMS SKS (3 weeks earlier)
Procedure – LMS SKS (3 weeks earlier)

Post-procedural ECG
Subacute LMS SKS Stent thrombosis
Subacute LMS SKS Stent thrombosis

Filling defect LMS/Cx
LAD occluded
Subacute LMS SKS Stent thrombosis

Filling defect LMS/Cx
LAD occluded
Subacute LMS SKS Stent thrombosis

8 Fr IABP inserted
7 Fr EBU 3.5 Guide
HTF wires – LAD and Cx – flow restored
Subacute LMS SKS Stent thrombosis

8 Fr IABP inserted
7 Fr EBU 3.5 Guide

HTF wires x 2
Subacute LMS SKS Stent thrombosis

HTF wires x 2

IVUS
IVUS Circumflex (pre)

Severe stent under-expansion

Suboptimal stent expansion
IVUS LAD (pre)

Severe stent under-expansion
Subacute LMS SKS Stent thrombosis

Thrombectomy
3.5 x 15 mm NC balloon
4.0 x 15 mm NC balloon
Subacute LMS SKS Stent thrombosis

3.5 x 15 mm NC balloon
4.0 x 15 mm NC balloon
Subacute LMS SKS Stent thrombosis

3.5 x 15 mm NC balloon
4.0 x 15 mm NC balloon
Subacute LMS SKS Stent thrombosis

3.5 x 15 mm NC balloon
4.0 x 15 mm NC balloon
Subacute LMS SKS Stent thrombosis
IVUS – Circumflex (post)
IVUS – LAD (post)
Subacute LMS SKS Stent thrombosis

Final Result – Thrombectomy/POBA (KBI)
Subacute LMS SKS Stent thrombosis

- Diagnostic 6 Fr
- PCI 7Fr EBU 3.5
- 8 Fr IABP
- IVUS
- 7Fr Thrombuster
- KBI – 3.5 x 15 mm (NC) and 4.0 x 15 mm (NC) balloons
Clinical Progress

Post-PCI

TnI peak 218
Haemodynamically stable
No LVF (after 24 hrs)
IABP removed after 36 hrs

• Moderate-severe LV dysfunction by echocardiogram
Clinical Progress

♥ Discharged 10d post-PCI

Aspirin, Prasugrel, Bisoprolol, Epleronone, Irbesartan, Insulins, OHGA, Ezetimibe/Simvastatin, Frusemide

♥ Asymptomatic - 20 mths later (DAPT continued)

♥ Mild-moderate LV dysfunction
Take Home Messages

♥ Benefits of IVUS guided PCI

LMS intervention
Ostial Cx/LAD disease
Instent restenosis
Stent thrombosis

♥ Provisional strategy is the default option for bifurcations - including LMS

♥ Optimal final kissing balloon inflation is mandatory in any complex (two stent) bifurcation strategy

♥ DES is the device of choice in LMS intervention
Thank you for your attention