Step-by-step selection algorithm and clinical decision-making through OCT technology in peripheral arteries

Pr Jonathan Sobocinski
Vascular Surgery, Institut Cœur-Poumon, CHU Lille, France
Disclosures

• CookMedical Inc. consulting, research support, speaker fees
• GE Healthcare consulting, research support
• AbbottVascular speaker fees, research support
ISSUE #1 – Long-term patency

- TASC D
- 50-62% @ 12 mo with BMS

Matsumura JVS 2013; Zeller JET 2014; Davaine EJEVS 2015

→ Need to improve results in endovascular revascularisation for long lesions of the SFA and popliteal arteries
ISSUE #2 – Intraoperative control of revascularisation

• 2D angiogram intraoperative control
  – would not provide enough information
  – Iodine contrast & X rays consumers
• IVUS as current alternative in the SFA, but no cost-effectiveness data

Fig. 1. Angiographic and IVUS imaging after angioplasty (A, B) and after angioplasty and stenting (C, D) of the superficial femoral artery. Arrows in figure emphasize image pairings.

Hitchner E AVS 2015
ISSUE #3 – Rational of bailout stenting

• In the context of latest results with DEB
• Medico-eco perspectives
ISSUE #1#2#3 → OCT acquisitions

• Coronary experience
  – higher resolution than IVUS
    Eberhardt KM JVIR 2013; Fujino Y Cath Cardiovasc Interv 2013
  – better depiction of stent malapposition = postop thrombosis Foin N Eurointerv 2017
  – evaluation of the lumen diameter – “the right stent”
OCT « limitations »

• in SFA & popliteal arteries, particularly in long lesions:
  
  – for each acquisition
    • Iodine contrast injection required to clear the lumen
    • with max segment analysed <7.5cm
  
  – Max diam of target vessel analysed announced should be <5mm (mean diam of SFA 5-6cm)
Protocol adaptation of OCT to be applicable in SFA

From the beginning of the experience

Flushing of the artery only with saline with automatic power injection
Protocol adaptation of OCT to be applicable in SFA

To final setup...

No iodine at all = no restriction in numbers of OCT acquisitions
Early experience with OCT in SFA

• Optimise the results of balloon angioplasty
• Better assessment of the residual dissection
Early experience with OCT in SFA

• 3D reconstructions after OCT acquisition
Early experience with OCT in SFA

- Better understanding to indicate when/where to stent or when/where to insist for post-stenting dilatation
Early experience with OCT in SFA

- 3D reconstruction where appears underexpansion of the struts
Conclusion for OCT in SFA

Hypothesis: a better 3D cosmetic result would provide better patency rate in those long lesions.

Valuable / promising tool for the SFA with no harm.

Would more accurately guide bail out stenting and would improve the quality of initial revascularisation.
Thank you!
Step-by-step selection algorithm and clinical decision-making through OCT technology in peripheral arteries

Pr Jonathan Sobocinski
Vascular Surgery, Institut Cœur-Poumon, CHU Lille, France
Step-by-step selection algorithm and clinical decision-making through OCT technology in peripheral arteries

Pr Jonathan Sobocinski
Vascular Surgery, Institut Cœur-Poumon, CHU Lille, France
Step-by-step selection algorithm and clinical decision-making through OCT technology in peripheral arteries

Pr Jonathan Sobocinski
Vascular Surgery, Institut Cœur-Poumon, CHU Lille, France