New Improved Image Guided (OCT) Directional Atherectomy System (Pantheris Lumivascular From Avinger): Advantages And Limitations: A Possible Game Changer

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Disclosures
• No Disclosures

The rationale for leave nothing behind

Stentfractures
• 24.5% Stent-fractures [54/221 Stents]
• 52% fracture rate for lesions > 16 cm
• 12-M PFR:
  • 41% in patients with stent fractures
  • 84.3% without stent fractures

Drug coated balloons (DCBs)
International positioning document

- Femoro-popliteal TASC II A/B de novo and restenotic lesions
- DCB offer clinical advantages over POBA and BMS

Cortese et al. EHJ 2016;37(14):1096-103

DCBs for long lesions: SFA-Long

Cortese et al. EHJ 2016;37(14):1096-103
DCBs in calcified lesions


Limitations of DCBs

- Long CTO lesions
- Severe calcification

Vessel preparation with Atherectomy?

Fluoroscopic-guided directional atherectomy (DAART)

DEFINITIVE AR


Fluoroscopic DAART drawbacks

- Increased risk for adventitial injury (up to 50%)
- Repeated angiograms
- Increased need for contrast medium
- Increased radiation

OCT real time vessel wall visualization?

Pantheris OCT atherectomy catheter

- 155μm optical fiber
- 7F and 8F sheath
- 0.014" rapid exchange wire lumen
- OCT laser aperture on the cutter blade, 1.2mm proximal to the edge
- Rotation with 1000 rpm
- Continuous real-time OCT imaging during debulking

OCT vessel wall visualization
The VISION TRIAL

Lower Extremity Revascularization Using Optical Coherence Tomography-Guided Directional Atherectomy: Final Results of the Evaluation of the Pantheris Optical Coherence Tomography Imaging Atherectomy System for Use in the Peripheral Vascular (VISION) Study

65yo female, Rutherford III, 50m pain free wd Tosaka III ISR right SFA, subtotal stenosis popliteal artery

Pantheris 3.0 first in human

650° OCT-control after debulking with 7F Pantheris 3.0

OCT guided DAART: The Münster

@12 Months PPR: 93%
@12 Months Freedom from TLR: 100%

Pantheris 3.0 first in human

Removal of dissection flap OCT-guided
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<th>OCT-guided peripheral interventions</th>
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<td>• Oct-guided atherectomy is safe</td>
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<td>• &gt;90% PP at 12 month in combination with DCB</td>
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<td>• Minimizing radiation exposure and CM application</td>
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<td>• 5F device is in the pipeline opening new horizons for BTK and possible coronary applications</td>
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<td>• Learning curve is important</td>
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<td>• Time consuming approach</td>
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