Future of OCT Guided Technologies for PAD: True Lumen Measurement, BTK Platform, and Calcium Therapies

Dr. Jon C. George
Director, Cardiac Cath Lab
Einstein Medical Center
Philadelphia, PA
Speaker name: Dr. Jon George

I have the following potential conflicts of interest to report:

- [x] Consulting
- [ ] Employment in industry
- [ ] Stockholder of a healthcare company
- [ ] Owner of a healthcare company
- [ ] Other(s)

- [ ] I do not have any potential conflict of interest
New OCT Guided Solutions for Fibro-Calcific Disease
Ocelot MVRX (O250)

**Ocelot**

6F / 110CM / SPIRAL FLUTES
Workhorse catheter to tackle most CTOs.

**Ocelot MVRX**

6F / 110CM / SPIRAL WEDGES / STIFFER SHAFT / AGGRESSIVE TIP / DUAL ACTION MODES
Specialty catheter to penetrate tough lesions.
Dual Action Modes

**Active Wedges: Counterclockwise**

**Passive Wedges: Clockwise**

Yellow Center Circle

Blue Center Circle
SEVERELY CALCIFIED SFA CTO
AT HUNTER'S CANAL
Pantheris Scalloped Cutter (SC) 
A150 (8F) + A250 (7F)
Define Calcium as Luminal or Medial and Treat using Pantheris SC
Pantheris Scalloped Cutter
Grips and Engages Tough Disease

CALCIUM POST (TROUGH)
50% IMPROVED PRESSURE GRADIENT ACROSS LESION
Followed MVRX with Pantheris Scalloped Cutter

Patient History
- 64 yo male
- SFA severe Ca++
Vessel Measurement and Diagnostic Imaging Capability
Recent FDA approvals:
1) Diagnostic Imaging for Pantheris OCT (previously granted for Ocelot)
2) Software Measurement Capability (min/max lumen diameter, lumen area, point-to-point distance)
Precisely Size Difficult Locations

**Proximal Overlap - Tightest Stenosis**

*Outer Stent*
- Min Diameter = 4.8mm
- Max Diameter = 5.0mm
- Lumen Area = 18.5mm²

*Inner Stent*
- Min Diameter = 4.2mm
- Max Diameter = 4.4mm
- Lumen Area = 14.4mm²
BTK Vessels Often Undersized by QCA

- QCA places distal TPT lumen at 3.5 mm
- OCT demonstrates lumen is 1mm larger in diameter

Min Diameter = 4.2mm  Max Diameter = 4.4mm  Stent Area = 16.8mm²
Below the Knee Platform
Variable Cobra Jog Element for Cutter Apposition

Scallop blade for fibro-calcific engagement

Monorail 0.014 wire lumen

Adjustable jog element (controlled at handle)

Not for commercial use – in development at Avinger, Inc.
Transition Between Closed (Packed) and Open (Active) Cutting Mode
## Pantheris 6F - BTK

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nosecone Diameter</td>
<td>6.0 Fr</td>
</tr>
<tr>
<td>Shaft Diameter</td>
<td>4.72 Fr</td>
</tr>
<tr>
<td>Catheter Working Length</td>
<td>135 cm</td>
</tr>
<tr>
<td>Nosecone Length</td>
<td>4.6 cm</td>
</tr>
<tr>
<td>Cutter Diameter</td>
<td>0.060 in</td>
</tr>
</tbody>
</table>
BTK Tissue Capture

Cut #1, Posterior Tibial
11.4 mg

Cut #2, Posterior Tibial
11.7 mg

Cut #3, Posterior Tibial
20.9 mg

Not for commercial use – in development at Avinger, Inc.
Histologic Validation of BTK OCT Precision

Plaque | 98.8%
Media  | 0.8%
EEL/Adventitia | 0.4%

Not for commercial use – in development at Avinger, Inc.
Conclusions

• Improved solutions for severe fibro-calcific disease
• OCT measurements more accurately size vessel lumen vs. QCA
• Novel 6Fr OCT guided directional atherectomy catheter with variable apposition jog may be a valuable tool for treating CLI
Future of OCT Guided Technologies for PAD: True Lumen Measurement, BTK Platform, and Calcium Therapies

Dr. Jon C. George
Director, Cardiac Cath Lab
Einstein Medical Center
Philadelphia, PA