Cracking and Paving of Extremely Calcified Femoropopliteal Lesions

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Potential conflicts of interest

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✓ I have the following potential conflicts of interest to report:

Consulting:
Abbott, Boston Scientific, Cook, Cordis, C.R.Bard,
Intactvascular, ReFlow Medical, Upstream Peripheral

Treatment-Options for Severely Calcified Femoropopliteal Lesions
- Alternative balloon-technologies
- Lithoplasty
- Cutting-/scoring-balloons
- High-pressure non-compliant balloons
- Atherectomy-devices
- PQ-bypass (go around)
- Stents

The Impact of Residual Stenosis of Calcified Lesions

- 118 SFA-CTOs treated with Nitinol-stents
- 43% residual stenosis > 30%

Failure of a Standard Nitinol-Stent
After implantation of a Viabahn 7/150 and post-dilatation with 7/20mm high-pressure balloon (Conquest)

Supera 6.5/200 into 7mm Viabahn

6-months FU after relining with Supera-stents using a “crack-and-pave”-technique
Case 2: Heavily Calcified SFA

- 72 years male patient
- Severe claudication left calf, Rutherford 3
- Walking-capacity 100 meters, ABI left 0.63
- CAD, PTCA 2012; 2013
- Art. hypertension, former smoker

Retrograde Access via the proximal ATA

Puncture ~ 15 cm distal to the patella, artery large enough to take a 4 french sheath
0.035" stiff angled glidewire + Judkins Right 4Fr

Judkins Right 5Fr
0.018" Connect GW
Judkins Right 4Fr

6.0/40 semi-compliant balloon 7.0/20 semi-compliant balloon

After destruction of several 7.0/20mm non-compliant high-pressure balloons (Conquest)

„pave and crack“

7.0/20 Conquest 50 atm.

See Important Safety Information Referenced Within.
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CRACK & PAVE – Technique
Leipzig Registry

- 11/2011 – 2/2017
- N = 67, 54 men, (71.4 ± 8.5 years)
- Mean lesion length: 26.9 ± 11.2 cm
- TASC D 77.6% & TASC C 32.4%
- 92.4% total occlusion

CRACK & PAVE – Technique
Leipzig Registry

- Maximum balloon-diameter:
  - 6 mm 47.4%
  - 7 mm 35.6%

- Maximum Viabahn-diameter:
  - 6 mm 50.7%
  - 7 mm 41.8%

- Maximum Supera-diameter:
  - 5.5 mm 47.8%
  - 6.5 mm 50.7%
The "crack and pave" technique appears to be a practical and valuable way to successfully treat extremely calcified femoropopliteal lesions.

Summary

The "crack and pave" technique appears to be a practical and valuable way to successfully treat extremely calcified femoropopliteal lesions.

CRACK & PAVE – Technique
Leipzig Registry – 1° & 2° Patency

Procedural success: 100 %
Technical Success: 98.5 %
(1 case with residual stenosis > 30%)

78.6 % 78.6 %
97.0 % 85.9 %
N= 23 N=17

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