External Piercing Technique in Heavily Calcified BTK Lesion in a Diabetic Foot Patients

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Disclosure

Speaker name: Seung-Woon Rha

I have the following potential conflicts of interest to report:

- 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
How to Finalize the Heavily Calcified BTK Lesions?

1. **Wire Passage Failure**
   1) 035 Subintimal angioplasty (1.5J Soft Terumo; Bypass Concept)
   2) Guidewire Distal Tip induced Crack (014 Cut Tip, 035 Stiff Terumo)
   3) Brockenbrough needle induced Crack
   4) Direct Extravascular Needle induced Crack (Ext Piercing Technique)
   5) Microcatheter; Corasir PV supported CTO wiring
   6) Child in mother catheter supported CTO wiring
   7) Retrograde and Bidirectional approach

2. **Balloon Passage Failure**
   1) Multiple parallel CTO wiring
   2) Tornus PV
   3) Rotablator (1.25mm)
   4) CTO Devices; TruePath, Frontrunner, Crosser
   5) Special Devices; Orbital atherectomy, Turbobhawk, Laser..
   6) Excellent balloon; Armada 014 OTW
Direct Extravascular Needle induced Crack Technique (External Piercing Technique) for a heavily calcified BTK lesion
Clinical Information

1. CC: Rt DM foot (Onset; 2014.1)
2. Risk Factors: DM (+), Smoking (+), Hypertension (-)
3. Findings:
   1) Cardiac echo; normal
   2) Extremity & Joint MRI; diffuse cellulitis in dorsum and osteomyelitis
   3) CT angiography; multi-stenosis in SFA, total occlusion in BTK arteries
   4) ABI; not done
BTK-Baseline Angiography
035 Subintimal Approach

035 Soft Terumo Wire (1.5J)
Rt ATA-Post 035 Wiring

Delivery of 5F Heartrail Catheter (Terumo)
Rt BTK 014 Wiring

014 HydroST Wire
Rt BTK Balloon

Advance LP 2.0 and 2.5 X200mm
Rt BTK distal-Post 014 long balloon
More Aggressive NC Ballooning

More than 10 coronary NC balloons were ruptured…
Post Multiple NC Ballooning
BTK Stenting

Xpert SES (Medtronic) 3.0X40mm
Needle Crack for Adjuvant Ballooning
Multiple Ext Piercing and NC Balloon
Extravasation
Prolonged Balloon Inflation and Final Angiography
CTA FU at 3 months for BTK
## Conclusion

1. **External Piercing Technique** was very useful in a un-dilatable heavily calcified BTK lesion despite of risk of extravasation and rupture.

2. **External Piercing Technique** associated vessel injury can be effectively and safely managed by prolonged balloon inflation.

3. The results appears to be durable once the procedure is successfully finished.
Thank You for Your Attention!!

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