Successful EVT to severe calcified lesion at common femoral artery using CROSSBOW technique

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Disclosure

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I do not have any potential conflict of interest
61 yrs old, male

- DM, HT, HL, ex smoker, HD (13 yrs)
- (Ant-sep)OMI (39 yo), PAf

- Rutherford 2 (both legs)
- ABI ; rt 0.82 / lt 0.85
- Med; Plavix 75mg/day, Pletaal 100mg/day
MRA
EVT to Lt SFA (POBA) at first
EVT to rt CFA

- Rt SFA prox puncture using echo ➔ 5F short seath, retrograde
- Athlete WIZARD PV3, retrograde wiring
- Pre IVUS; heavy eccentric calcified lesion
- CROSSBOW technique (7times irrigation)
- POBA; SABER 5.0/40mm (5 min)
- IVUS
- POBA; SABER 8.0/40mm (5 min)
- Post IVUS; acceptable dilatation
- Final Angio (good distal run off)
- Hemostop by ExoSeal
Crossbow
CROSser® supported by bended 0.014 wire

CTO crossing device.

Application for the purpose of debulking is still off-label use!
Technical tips

It is hard to keep appropriate position of the Crosser tip using guidewire bias for directional ablation in eccentric lesions

Courtesy of Dr Urasawa
Technical tips

Double bended guidewire greatly reduces the whip motion of the system

Courtesy of Dr Urasawa
How to perform Crossbow technique

Courtesy of Dr Urasawa
Advance a soft guidewire beyond the lesion

Courtesy of Dr Urasawa
Advance a microcatheter beyond the lesion
Remove the guidewire

Courtesy of Dr Urasawa
Advance a double-bended guidewire through microcatheter

Naveed4 15g
A specialized guidewire for Crossbow technique will be released soon

Courtesy of Dr Urasawa
Remove the microcatheter

Courtesy of Dr Urasawa
Withdraw the guidewire

Distal bending point

Courtesy of Dr Urasawa
Advance Crosser to the distal bending point

Courtesy of Dr Urasawa
Advance Crosser and guidewire together

Courtesy of Dr Urasawa
Withdraw Crosser and guidewire together

Courtesy of Dr Urasawa
Advance Crosser and guidewire together

Courtesy of Dr Urasawa
Withdraw Crosser and guidewire together

Courtesy of Dr Urasawa
Advance Crosser and guidewire together

Courtesy of Dr Urasawa
Pre IVUS

heavy calcification
(3cm in length)

reference diameter (8-9mm)
POBA after CROSSBOW

SABER 5.0/40mm (5 min)

SABER 8.0/40mm (5 min)
Post IVUS (rt side)

MLA 19 mm², MLD 3 × 6mm
Final angio (rt side)

ABI; 0.82 → 0.99
Treatment of calcified CFA

• First choice; Endarterectomy, but.....

• Complicated and high risk patients such as DM, HD, Advanced age, Immobility etc.

• Lesion seems to be dilatable

• EVT may be acceptable using various techniques and devices (direct SFA puncture, CROSSBOW, long inflation, ExoSeal)

• Balance between safety and efficacy
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