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Directional atherectomy with antirestenotic therapy for popliteal arterial disease : early experience

L. Stiennon, A. Kerzmann, E. Boesmans, J.-O. Defraigne

Dept. of Cardiovascular and Thoracic Surgery, CHU Liège, Belgium



Disclosure of Interest

Disclosure

Speaker name:

Laurie Stiennon

I do not have any potential conflict of interest

Introduction (1)

- Because of the mobility of the knee joint, stent therapy is not an ideal option for popliteal arterial disease.
- Calcified arterial lesions are not well treated with **d**rug coated **b**alloons (DCB).
- Vessel preparation with directional atherectomy followed by DCB could be a good solution.

Introduction (2)

- Directional atherectomy allows a more uniform angioplasty result with minimal consequent vessel barotrauma and improved luminal gain
 - ➔ decreasing the risk of plaque recoil and dissection
 - ➔ preventing negative remodeling and neointimal hyperplasia¹

¹ *Debulking atherectomy in the peripheral arteries : is there a role and what is the evidence? Katsanos et al. Cardiovasc Intervent Radiol. 2017 Jul;40(7):964-977*

Introduction (3)

- The use of directional atherectomy with antirestenotic therapy showed a higher primary patency rate compared with the use of DCB alone.²

²*Directional atherectomy with antirestenotic therapy vs drug-coated balloon angioplasty alone for isolated popliteal artery lesions. Stavroulakis K et al. J Endovasc Ther. 2017 Apr;24(2):181-188*

Introduction (4)

- Use of atherectomy devices in Belgium is limited because there is no refund.
- We report our first experiences with directional atherectomy followed by DCB angioplasty in popliteal lesions.

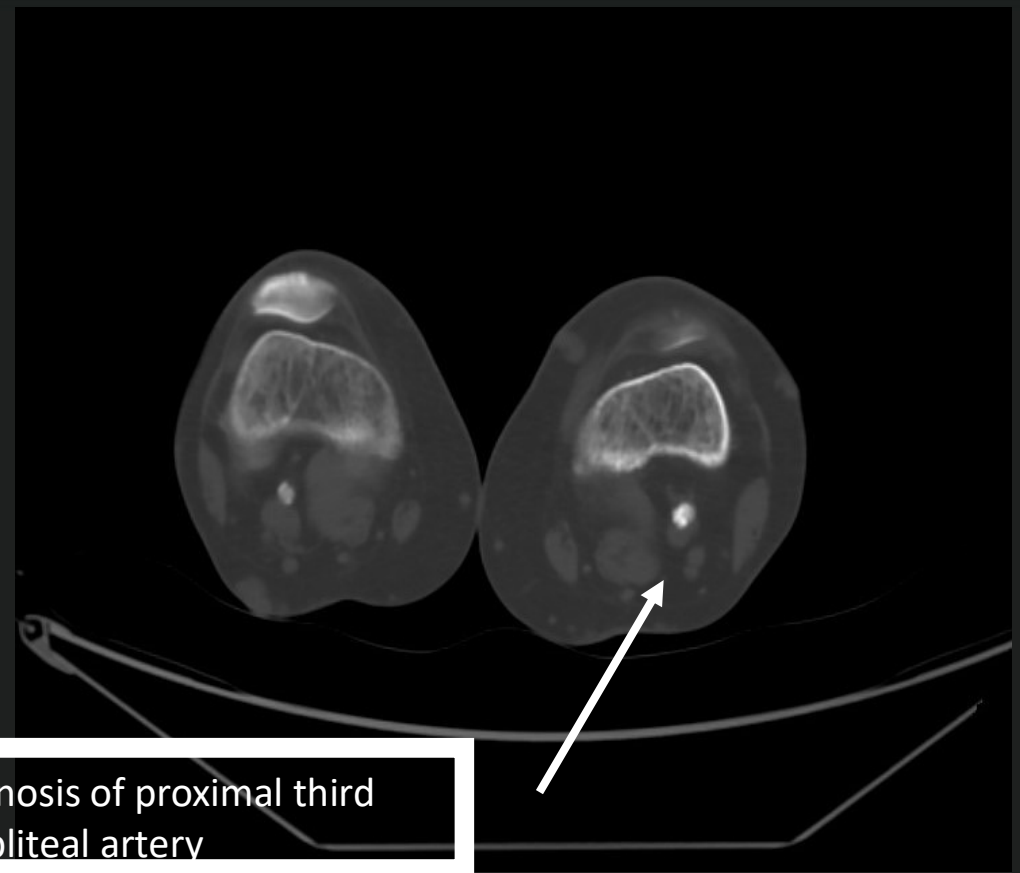
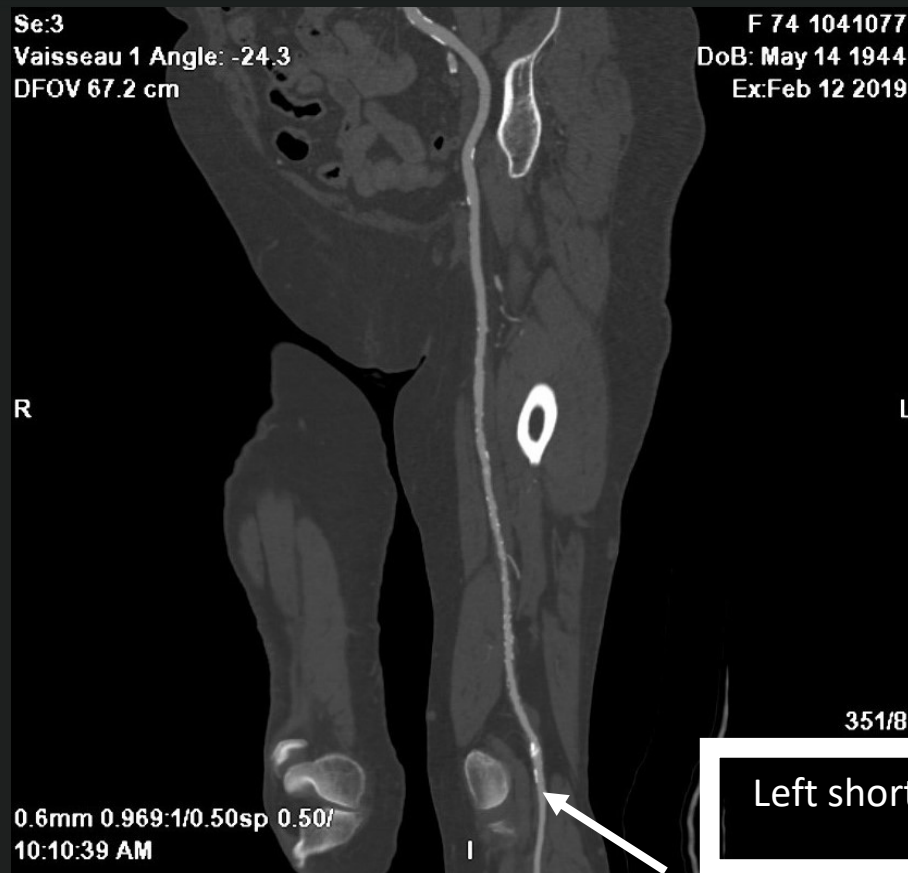
Methods (1)

- Between October 2018 and March 2019, 2 patients with 3 calcified popliteal atherosclerotic disease were treated with directional atherectomy followed by DCB angioplasty.
- They were reviewed prospectively.

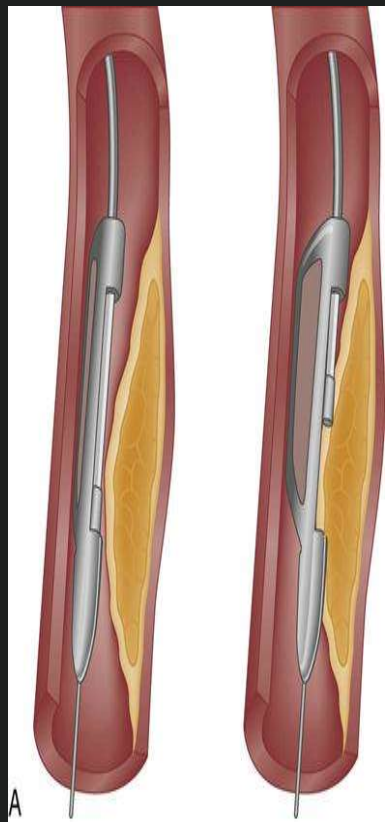
Methods (2)

| | Patient | Rutherford | Vascular lesions | ABI before intervention |
|-----|---------|------------|--|-------------------------|
| I | M / 83y | III | Right occlusion of middle third popliteal artery | 0,6 |
| II | M / 83y | III | Left short stenosis of middle third popliteal artery | 0,7 |
| III | W / 74y | II | Left short stenosis of proximal third popliteal artery | 0,6 |

Methods (3)

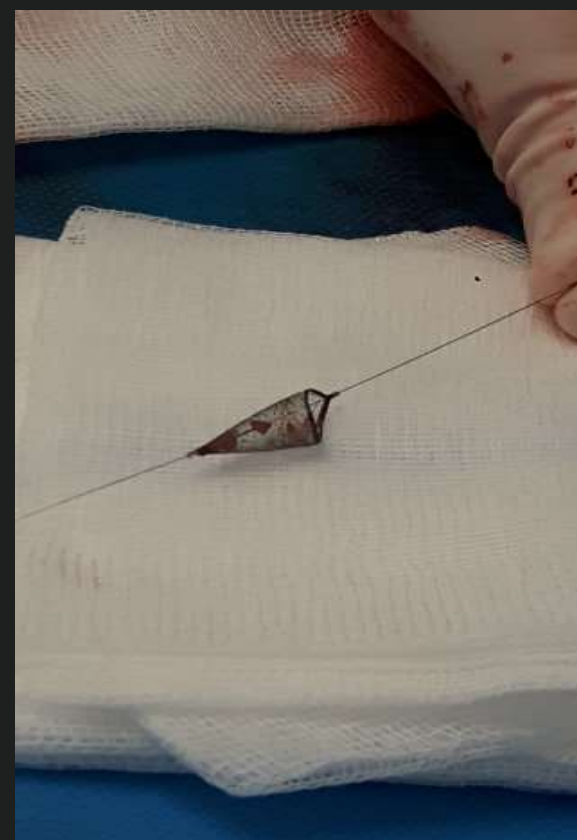
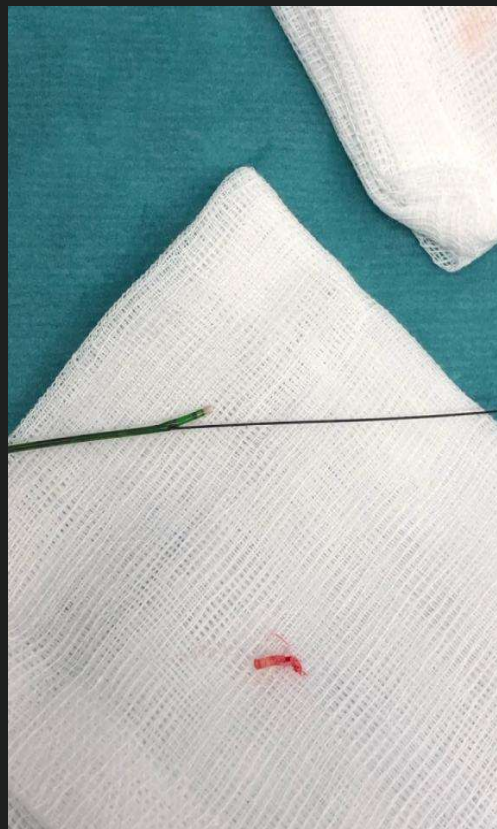


Directional atherectomy

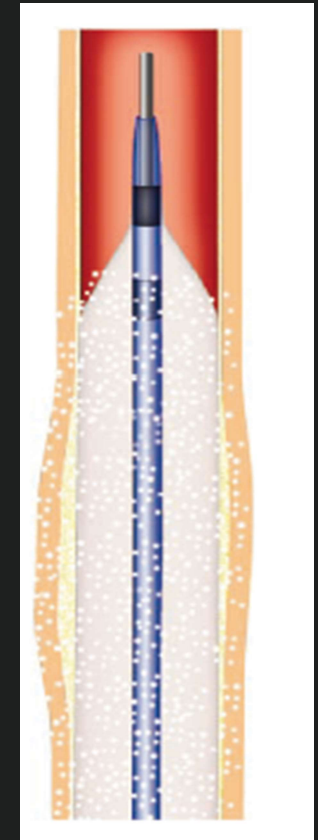


Source : Thekahancenter

using filter wire



and DCB



Source : EuroCor Endovascular

Results (1)

| | Intervention | Complication | ABI after intervention | Rutherford | Follow Up |
|-----|------------------------------------|---------------------------------------|------------------------|------------|---|
| I | atherectomy with filter wire + DCB | No embolisation No dissection | 0,6 | III | 4 months Early Thrombosis No aneurysm |
| II | atherectomy with filter wire + DCB | No embolisation No dissection | 0,9 | I | 8 months No thrombosis No aneurysm |
| III | atherectomy with filter wire + DCB | No embolisation Limited dissection | 0,8 | I | 3 months No thrombosis No aneurysm |

Results (2)

- Technical success rate was **100%**.
- There was no distal embolization using the filter wire.
- At short term :
 - **Primary patency rate** was 67%.
 - Early rethrombosis in one case.
 - No popliteal aneurysmal degeneration.

Conclusions

- Directional atherectomy with antirestenotic therapy for short and calcified popliteal arterial disease is **feasible** and seems **safe**.
- It can be used in Belgium thanks to **the refund for DCB therapies** in femoro-popliteal lesions.