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Atherectomy with drug-eluting balloon for common femoral artery occlusive disease: short term experience

A. Kerzmann, E. Boesmans, C. Holemans, D. Szecel, V. Demesmaker, J. Pudzeis, V. Alexandrescu, J.O. Defraigne

Department of Cardiovascular and Thoracic Surgery, CHU Liège, Belgium

DISCLOSURES

Arnaud Kerzmann, MD

Consultant: BD, Boston Scientific

Grant/research support: BD, Boston Scientific, Medicor

INTRODUCTION

- Gold standard treatment for occlusive lesions of the common femoral artery used to be endarterectomy.

- In recent years, interest for endovascular treatment of the common femoral artery has been increasing[1].

- Stenting of the common femoral artery is possible[1,2] but we believe it is better to avoid it. Calcified arterial lesions are not well treated with drug coated balloons alone[3].

[1] Deloose K, Martins I, Neves C, Callaert J. Endovascular treatment for the common femoral artery: is there a challenger to open surgery? J Cardiovasc Surg. 2019;60:8-13.
[2] Gouëffic Y, Della Schiava N, Thaveau F, Rosset E, Favre JP, Salomon du Mont L, Alsac JM, Hassen-Khodja R, Reix T, Allaire E, Ducasse E, Soler R, Guyomarc'h B, Nasr B. Stenting or Surgery for De Novo Common Femoral Artery Stenosis. JACC Cardiovasc Interv. 2017;10:1344-1354.
[3] Fanelli F, Cannavale A, Gazzetti M, Lucatelli P, Wlderk A, Cirelli C, d'Adamo A, Salvatori FM. Calcium burden assessment and impact on drug-eluting balloons in peripheral arterial disease. Cardiovasc Intervent Radiol. 2014;37:898-907.

INTRODUCTION

- Vessel preparation with rotational atherectomy, followed by drug-eluting balloon usage, could be a good option.
- Our aim was to evaluate it for common femoral artery calcified occlusive disease.
- We report our early experience.

METHODS

- Prospective registry
- In one Belgian center: University Hospital of Liège.
- Start in June 2021
- Inclusion of all atherosclerotic common femoral artery stenosis and chronic total occlusions.
- Percutaneous treatment: rotational atherectomy followed by drug coated balloon angioplasty.
- Exclusion: embolic occlusive disease, hybrid procedure (endovascular and open surgery), critical acute ischemia.
- Primary end point: primary patency rate.

RESULTS

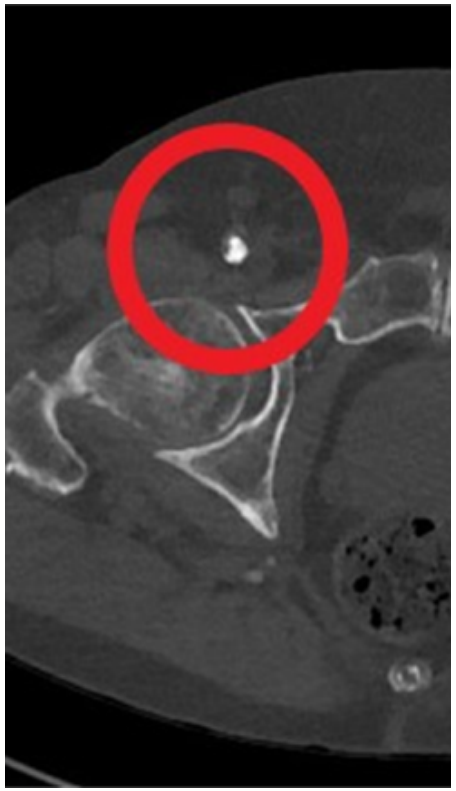
Between June 2021 and March 2022, 22 patients including 4 with bilateral lesions were treated.

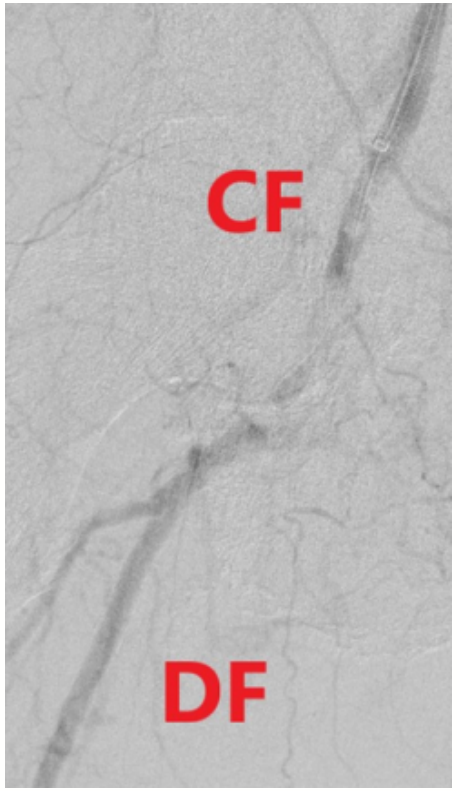
procedures	26
men	15
women	7
mean age	75
arterial hypertension	86% (19/22)
smoking or stopped < 3 y.	55% (12/22)
diabetes (all types)	32% (7/22)
dyslipidemia (all types)	86% (19/22)
chronic kidney disease	32% (7/22)
Rutherford	3 stage 2, 18 stage 3, 3 stage 4, 2 stage 5
mean ankle-brachial index	0,69
chronic total occlusion	3
heavy calcifications	100 %

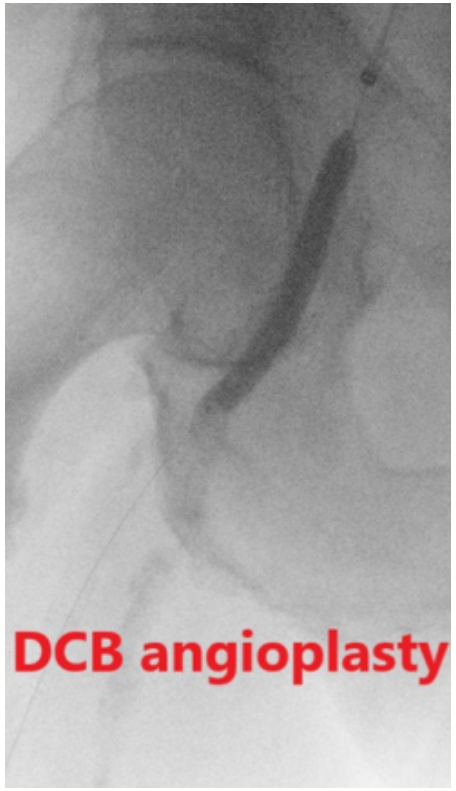
RESULTS

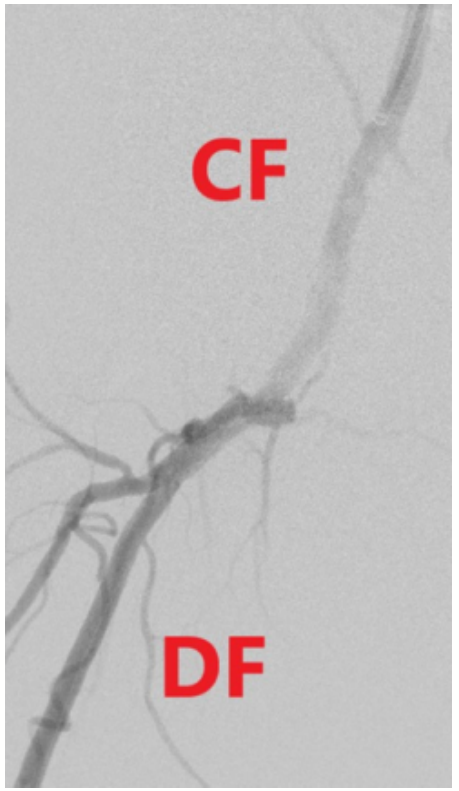
- All procedures were performed under local anesthesia.
- 19 were anterograde with controlateral femoral puncture and 7 were retrograde with ipsilateral superficial femoral puncture.
- No filter was used.
- Technical success rate was 100%.
- One asymptomatic embolization in deep femoral artery side branch.

RESULTS

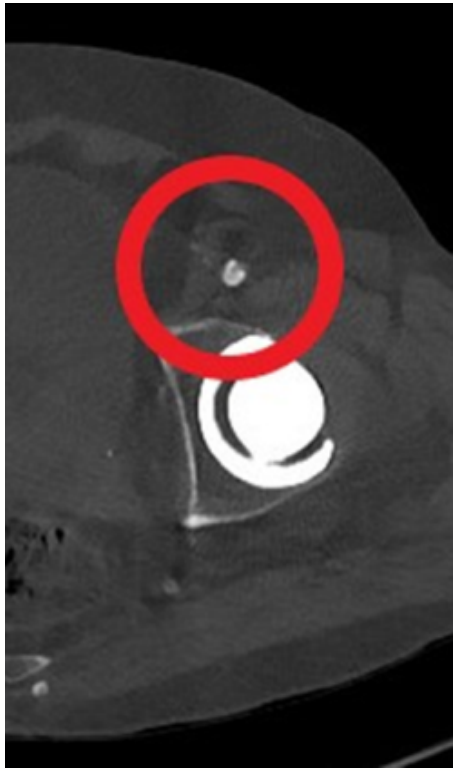


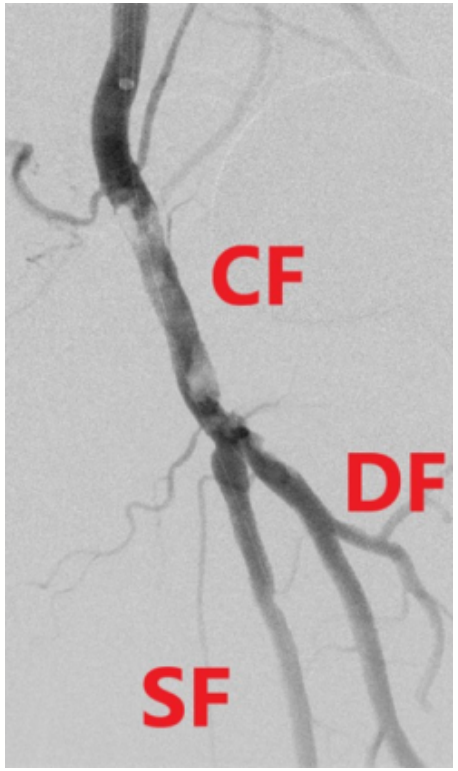


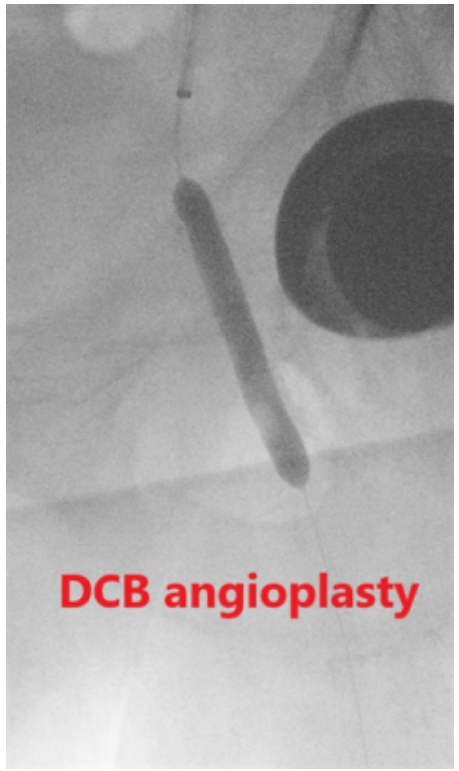


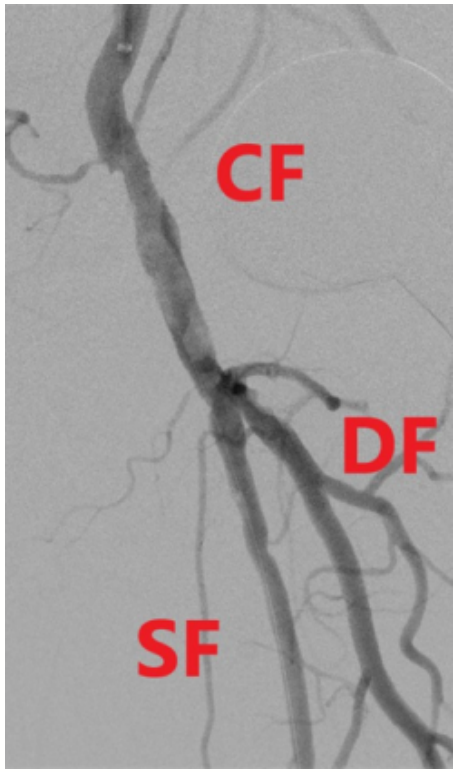


RESULTS









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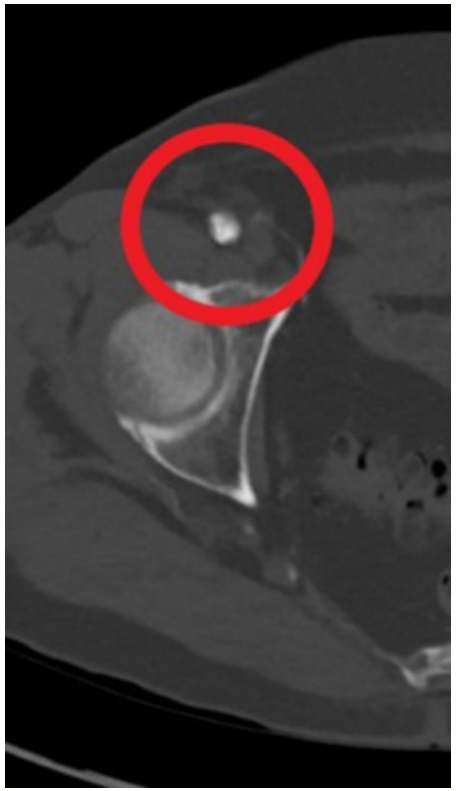
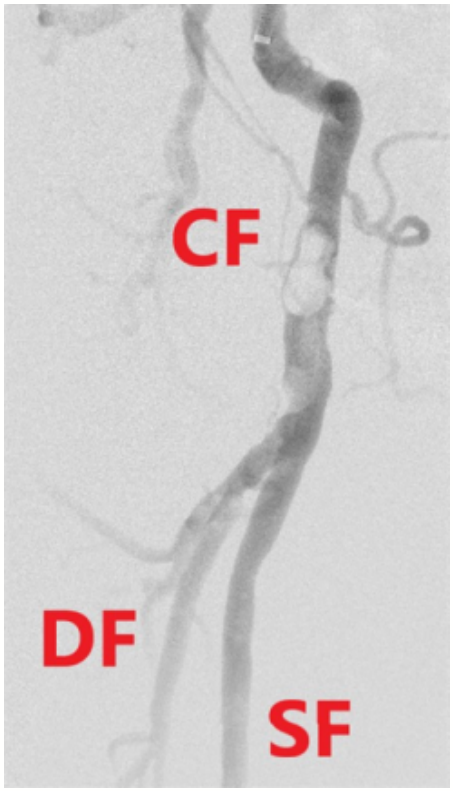
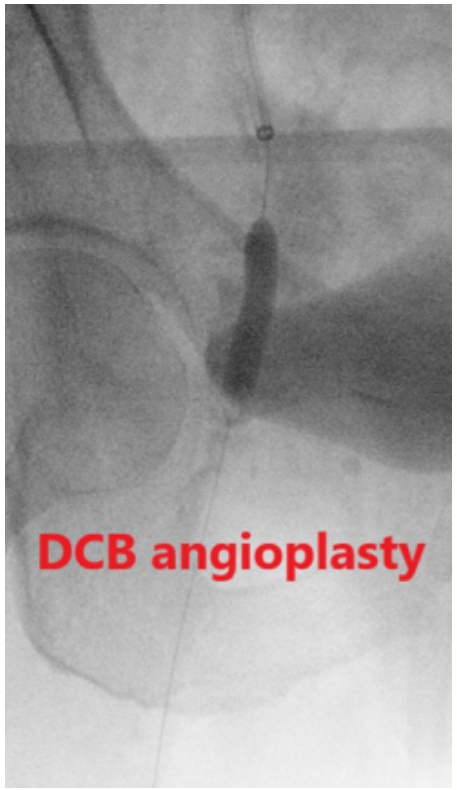
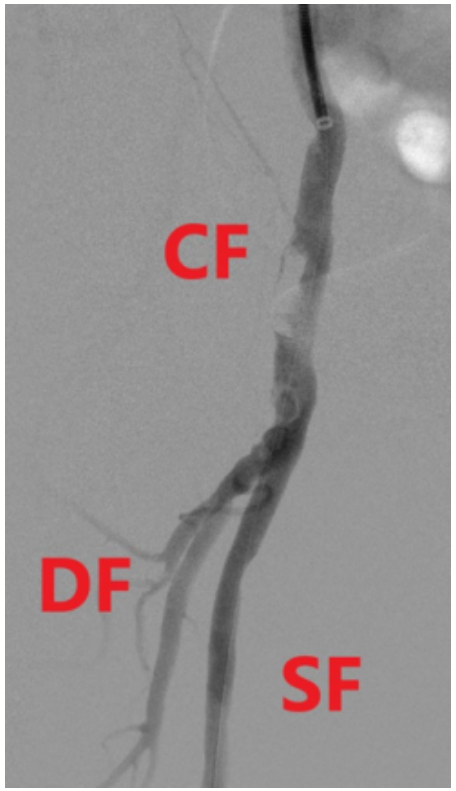


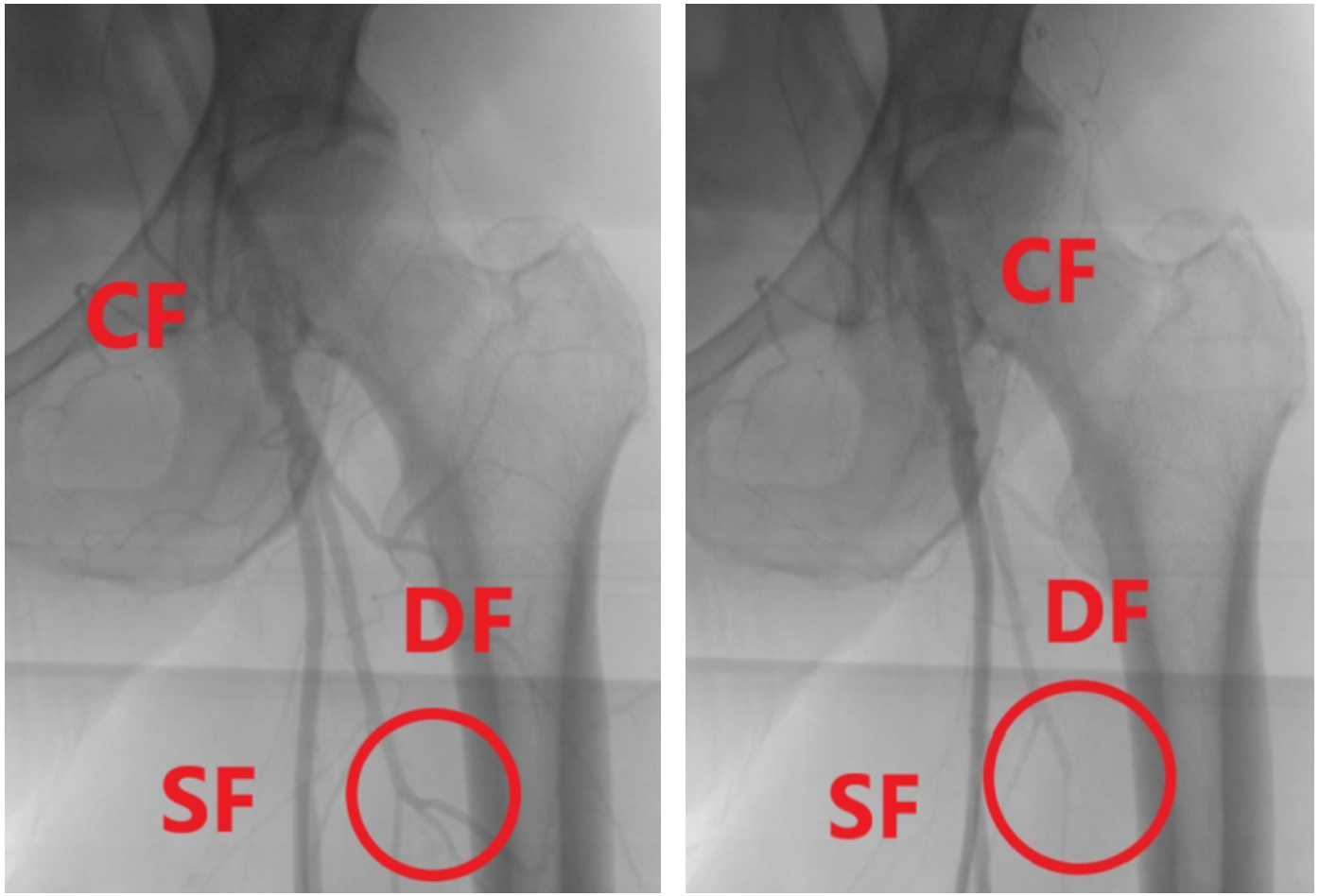






RESULTS

Deep femoral artery side branch embolization



RESULTS

- Mean follow-up was 4 months.
- Primary patency rate was 100 %.
- 1 death after one month following cardiac decompensation.
- 1 toe amputation.
- 2 patients with none-ST-elevation myocardial infarction, 1 on the 1st and 1 on the 30th postoperative day.
- 2 patients with false aneurysm at the puncture site, one treated surgically and one with thrombin injection.
- All patients with decreased Rutherford stage peripheral arterial disease

CONCLUSIONS

- Rotational atherectomy followed by drug coated balloon angioplasty for common femoral artery calcified occlusive disease is ***feasible*** and ***safe***.

- The advantages are
  - to ***avoid*** the potential complications of the surgical treatment
  - to ***leave*** nothing behind

- Long term results will be required.

- Enrollment and follow-up are on-going.