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Atherectomy with drug eluting balloon for common femoral artery occlusive disease: early experience

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Disclosures

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Objectives

- Gold standard treatment for occlusive lesions of the common femoral artery used to be endarterectomy.
- Last years, interest for endovascular treatment of the common femoral artery is growing up¹.
- 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 alone³.

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.

Objectives

- Our aim is to evaluate vessel preparation with rotational atherectomy followed by drug coated balloon angioplasty to treat common femoral artery calcified occlusive disease.

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

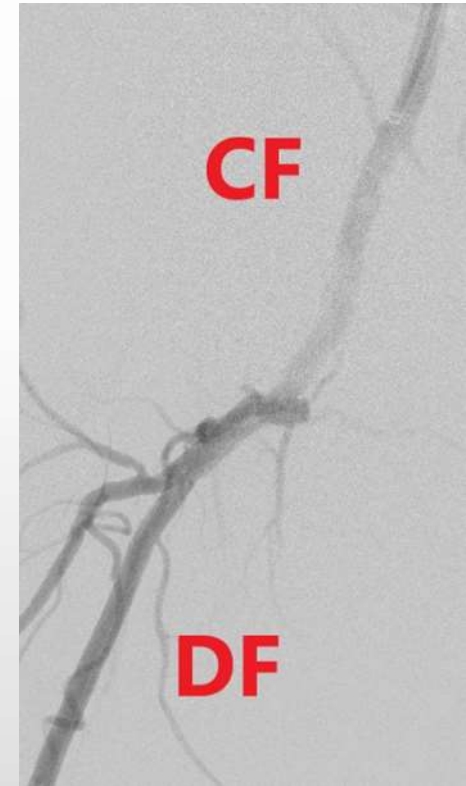
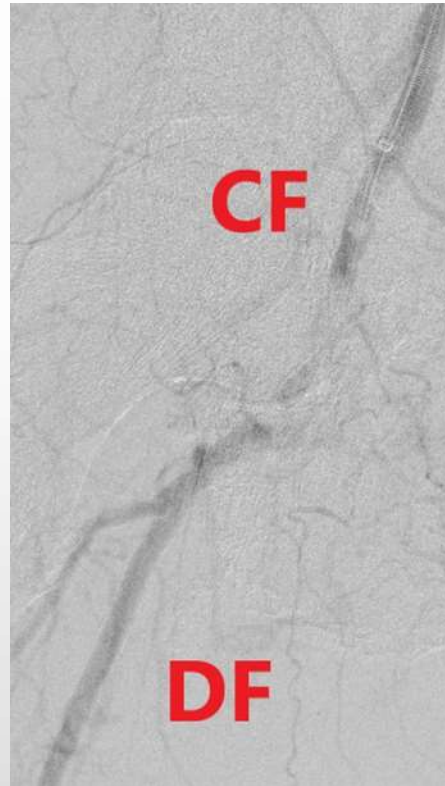
- Between June 2021 and October 2021, 6 patients including 2 with bilateral lesions were treated.

procedures	8
men	3
women	3
mean age	74 years old (54-89)
arterial hypertension	100 % (6/6)
smoking or stopped < 3 years	50 % (3/6)
diabetes (all types)	33 % (2/6)
dyslipidemia (all types)	83 % (5/6)
chronic kidney disease	33 % (2/6)
Rutherford	all stage 3 except one stage 2
mean ankle-brachial index	0,79 (0,4-1)
chronic total occlusion	25 % (2/8)
heavy calcifications	100 % (8/8)
mean lesion length	4,2 cm (2,5-5,5)

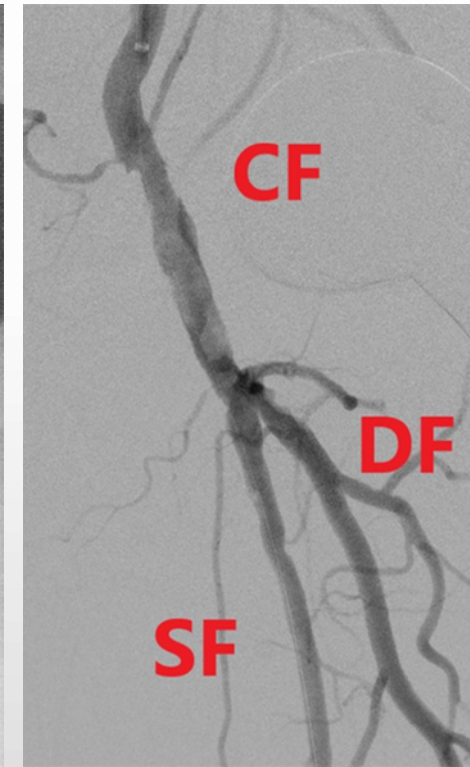
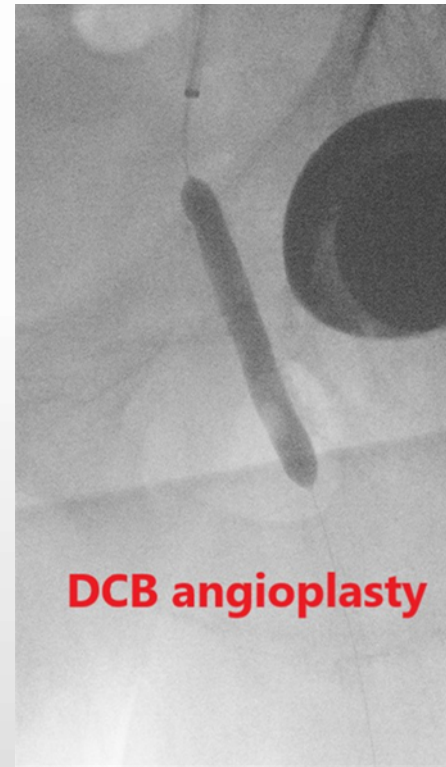
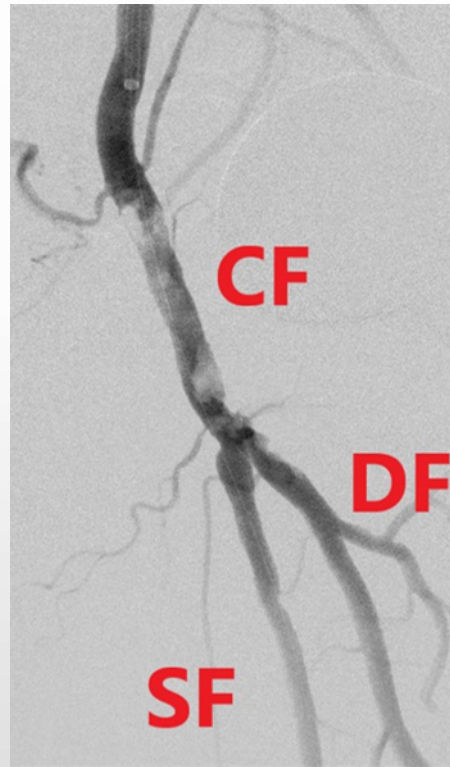
Results

- All procedures were performed under local anesthesia.
- 6 were anterograde with contralateral femoral puncture and 2 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.

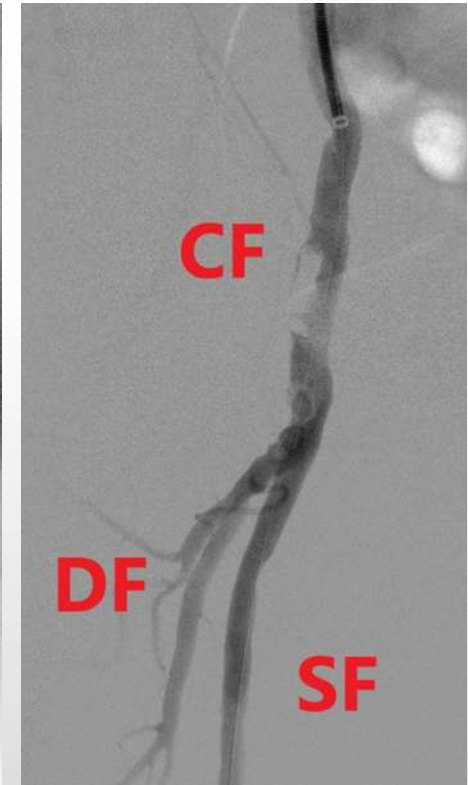
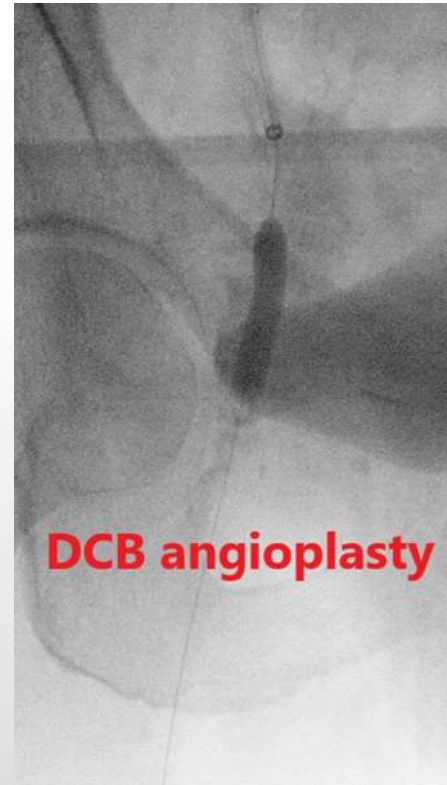
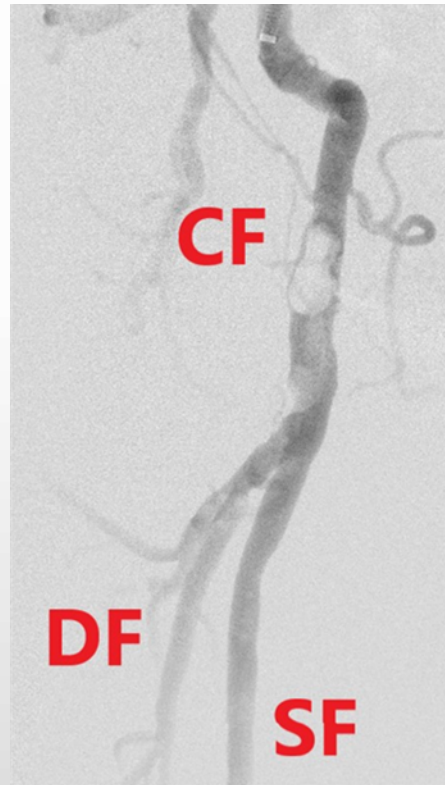
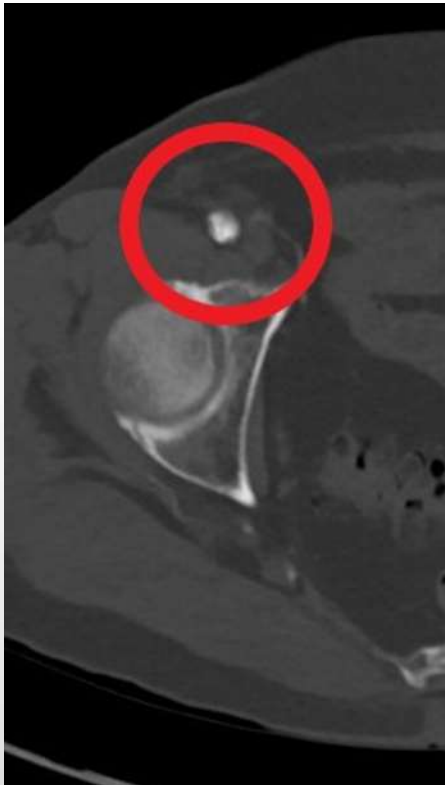
Results



Results

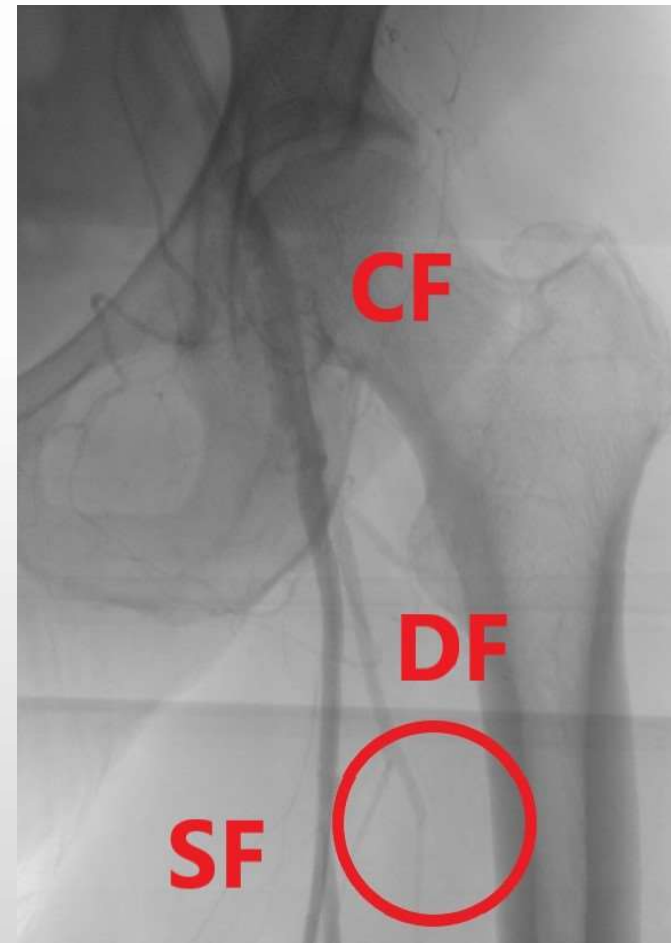
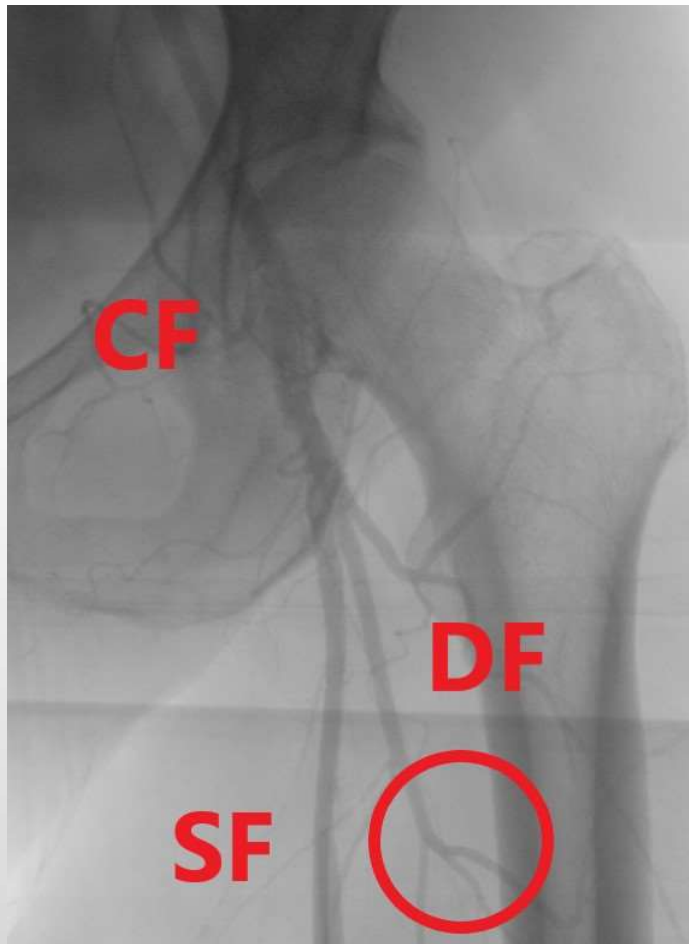


Results



Results

Deep femoral artery embolization



Results

- There was no death.
- One patient had NSTEMI on the first post-operative day.
- Another patient had false aneurysm at the puncture site treated surgically on the fifth post-operative day.
- All others had no complication.
- At very short term, primary patency rate was 100 %.
- 50% of the patients had post-operative Rutherford stage 0 peripheral arterial disease and 50% had Rutherford stage 1.
- The mean post-operative ankle-brachial index was 0,9.

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
- Enrollment and follow-up is going on. Mid and long-term results are mandatory.



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