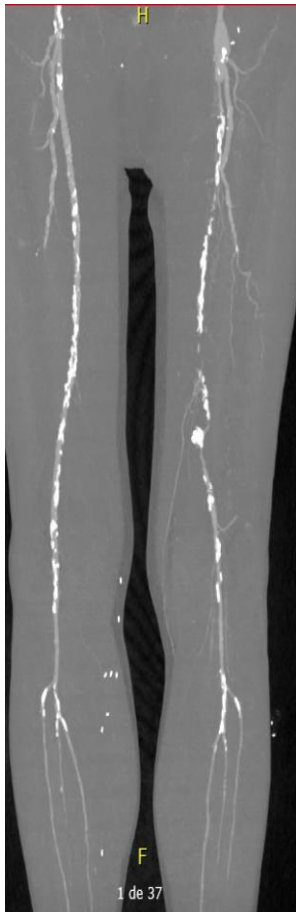


Introduction

Endovascular therapy is the gold standard for femoro-popliteal arterial occlusive disease (1). Like heavy calcified lesions, very long ones are challenging to treat percutaneously (2).

We report our experience about percutaneous recanalization of very long femoro-popliteal chronic total occlusions, longer than 20 cm corresponding to femoro-popliteal level grade 4 in the Global Limb Anatomic Staging System (GLASS) (3).

Material and methods



Between January 2021 and April 2022, we included all percutaneous recanalization of more than 20 cm femoro-popliteal chronic total occlusions performed in our institution.

They were reviewed prospectively. We collected demographic data from these patients, the various cardiovascular risk factors, preoperative (size of the lesion, ABI index, Rutherford classification), intraoperative (predilatation, type of puncture, balloon used, bail out stenting) and postoperative data (ABI index, Rutherford classification, primary patency, reoperation). The primary end point was the primary patency rate.

Results

There were 34 patients with 36 limbs (15 left lower limbs and 21 right lower limbs). They were 14 women including 2 with bilateral occlusions and 20 men.

Mean age was 64 years old (SD +/- 8,2 years, min 55 years old, max 95 years old).

Recanalization of very long femoro-popliteal chronic total occlusions

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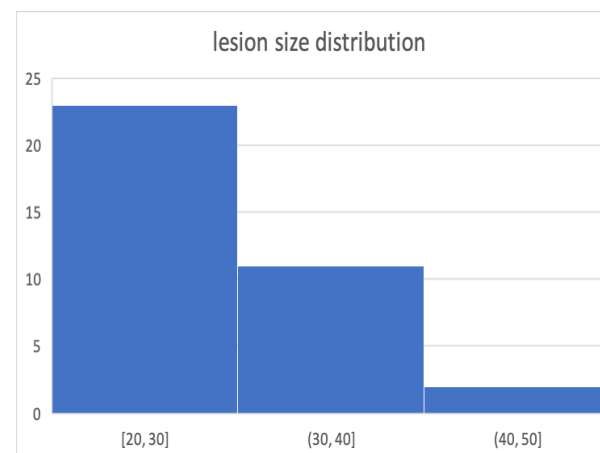
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We found arterial hypertension in 77,7% (28/34), smoking in 80,5% (29/34), diabetes in 44,4 % (16/34) and dyslipidemia in 69,4% (25/34) of the patients.

Preoperatively, there were 16 patients with Rutherford category II, 10 patients with Rutherford category III, 2 patients with Rutherford category IV and 8 patients with Rutherford category V.

The mean preoperative ABI was 0,53 (max 0,8 and min 0,25). The mean length of the occlusive lesion was 29,22 cm (max 50 cm and min 20 cm).



Vessel preparation was realized in all patients, mainly by plain old balloon angioplasty (POBA), and in one case by rotational atherectomy. Among the 36 limbs, there were 4 primary stentings and 32 balloon angioplasty with drug coated balloons (DCB). In this last category, there were 16 bail out stenting, in 10 cases for dissections (10 spot stenting) and in 6 cases for recoil (3 spot stenting and 3 full metal jacket stenting). There were 21 contralateral and 15 ipsilateral puncture. 6 retrograde punctures were necessary. The technical success rate was 100 %.

4 PRIMARY STENTINGS	32 ANGIOPLASTY with DCB
4 drug coated stents	32 DCB alone
	16 BAILOUT STENTING
	- 10 dissections (spot)
	- 6 Recoils (3 spot/3 full)

Postoperatively, there were 20 patients with Rutherford category 0, 2 patients with Rutherford category I, 2 patients with Rutherford category II and 1 patient with Rutherford category V.

The mean post-operative ABI was 0,85 (max 1,20 and min 0,29).

Mean follow up was 4 months. There was no death. There was minor amputation in 2 patients. Among all the patients there were 9 secondary occlusions with 5 target lesion revascularizations (13%). The mean timelines for reocclusion was 130 days (max 307 days and min 2 days).

Conclusions

Percutaneous recanalization of very long femoro-popliteal chronic total occlusions is feasible and safe.

Despite primary patency rate is good, vessel preparation has to be optimized to enhance it.

A longer follow up is required.

References

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- (3) Conte MS, Bradbury AW, Kolh P, et al. Global vascular guidelines on the management of chronic limb-threatening ischemia. J Vasc Surg. 2019 Jun;69(6S):3S-125S.e40.