

chronic total occlusions

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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 femoro-popliteal recanalization, longer than 20 cm corresponding to stage 4 of femoro-popliteal (FP) disease grading in Global Limb Anatomic Staging System (GLASS).⁽³⁾

Material and methods

Between January 2021 and October 2022, we performed 43 percutaneous femoro-popliteal recanalization for more than 20 cm chronic total occlusions in our university hospital. All have been reviewed prospectively.

We collected demographic data from these patients, the various cardiovascular risk factors, preoperative (length of the lesion, ankle-brachial index (ABI), RUTHERFORD classification), intraoperative (predilation, type of puncture, balloon used, stenting) and postoperative data (ABI, RUTHERFORD classification, primary patency, reoperation).

The primary end point was the primary patency rate.



Results

There were 41 patients with 43 limbs (19 left lower limbs and 24 right lower limbs). They were 17 women including 2 with bilateral occlusions and 24 men.

Mean age was 69 years old (SD +/- 8,7 years, MIN 56 years old, MAX 96 years old).

We found arterial hypertension in 80,4% (33/41), smoking in 85,3% (35/41), diabetes in 43,9 % (18/41) and dyslipidemia in 70,7% (29/41).

Preoperatively, there were 19 patients with RUTHERFORD category II, 12 patients with RUTHERFORD category III, 3 patients with RUTHERFORD category IV and 9 patients with RUTHERFORD category V.

The mean preoperative ABI was 0,53 (MAX 0,8 and MIN 0,25). The mean length of the lesion was 28,9 cm (MAX 50 cm and MIN 20 cm).



Vessel preparation was realized in all patients, mainly by plain old balloon angioplasty (POBA), and in three cases by rotational atherectomy. There were 4 primary stenting and 39 angioplasties with drug-coated balloons (DCB). In this last category, there were 17 bail-out stenting, in 11 cases for dissections (11 spot stenting) and in 6 cases for recoils (in 3 cases spot stenting and in 3 cases full metal jacket stenting).

There were 28 contralateral and 15 ipsilateral punctures with also 9 retrograde punctures. The technical success rate was 100 %.

4 PRIMARY STENTING	39 ANGIOPLASTIES with DCB
4 drug coated stents	22 DCB alone
	17 Bail-out stenting
	- 11 dissections (spot)
	- 6 Recoils (3 spot/3 full)

Postoperatively, there were 23 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 postoperative ABI was 0,85 (MAX 1,20 and MIN 0,29).

Mean follow up was 8 months. There were 2 deaths. There were minor amputations in 2 patients. There were 15 secondary occlusions (34,8%) with 6 target lesion revascularizations (13,9%).

The mean timelines for reocclusion was 214 days.

Conclusion

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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