Perforation of the popliteal artery after rotational atherectomy for severe calcified occlusive lesion
: Report of a rare case

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Introduction

- Treatment of infrainguinal lesions using rotational atherectomy has been reported to be safe and effective in patients with an atherosclerotic or calcified plaque.
- Distal embolization or abrupt vessel occlusion is known as major complications.
- We report a rare case of perforation of the popliteal artery after rotational atherectomy for the severe calcified occlusive lesion.

Case

- A 72-year-old male patient was referred to our hospital due to moderate intermittent claudication of right lower leg started one year ago. His initial ankle-brachial index was 0.59/0.74. Computed tomography (CT) angiography showed segmental occlusion of the right popliteal artery. We planned to perform rotational atherectomy and balloon angioplasty with a drug-coated balloon.
- After percutaneous access was obtained in the right common femoral artery, right popliteal artery occlusion with a heavy calcified plaque was identified.
- The lesion was difficult to cannulate antegradely due to its heavy calcification.
- Therefore, we tried to cannulate via retrograde pedal access, and the lesion was successfully cannulated with 0.014 wire.
- Multiple passes of Jetstream catheter (Boston Scientific, Marlborough, MA) were made, and angioplasty was done with a drug-coated balloon.

Conclusion

- The patient was discharged the next day with tolerable discomfort on his right popliteal area.
- However, two days later, the patient visited the emergency room due to severe painful swelling of the right knee.
- CT scan showed enlarged pseudoaneurysm, which suggested perforation of the popliteal artery.
- We performed emergent popliteal artery interposition with autogenous vein. The patient was discharged with complete symptomatic resolution.
- The patient is doing well without any complications at six-month follow-up.

- Popliteal artery rupture of after rotational atherectomy for calcified occlusion is a rare, but possible complication.
- Timely and appropriate management is mandatory for iatrogenic popliteal artery injury.