Iatrogenic tibial arteriovenous fistula after Fogarty balloon catheter graft thrombectomy

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Abstract

A 75-year-old male presented with an immediately threatened grade IIb acute ischemia of the left leg due to thrombosis of a femoro-infrapopliteal prosthetic bypass graft. After an urgent Computed Tomography Angiography, an urgent graft thrombectomy was performed using a 5 Fr Fogarty catheter, which had a troublesome distal passage.

CLINICAL VIDEO

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Key Clinical Message

Peripheral arterial thrombo-embolectomies with a Fogarty balloon catheter may lead to introgenic injuries like vessel perforation, pseudoaneurysm or arteriovenous fistula formation, as in our case. Fluoroscopically assisted thromboembolectomy may eliminate these complications.

Case Description

A 75-year-old male presented with an immediately threatened grade IIb acute ischemia of the left leg due to thrombosis of a femoro-infrapopliteal prosthetic bypass graft. After an urgent Computed Tomography Angiography, an urgent graft thrombectomy was performed using a 5 Fr Fogarty catheter, which had a troublesome distal passage. The leg recovered normal motor and sensory function. Surprisingly, a hand-held Doppler device obtained a continuous machinery bruit in the anterior tibial artery/veins suggesting an arteriovenous fistula, which was depicted in a subsequent Digital Subtraction Angiography and a color

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duplex exam (S1). Most likely, the Fogarty catheter had unintentionally perforated the anterior tibial artery passing into one of the adjacent anterior tibial veins [1-2]. Patient was managed conservatively and the arteriovenous fistula was found to be spontaneously thrombosed in a three-month follow-up (S1).

Keywords: Iatrogenic injury, Fogarty thrombectomy, graft thrombectomy, arteriovenous fistula

Patient consent for publication

A written informed consent was obtained from the patient for publication of this case report.

Conflict of interest

There are no conflicts of interest to declare.

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None

Author contribution

SP, KM, NK, FM, AT, CS contributed to the clinical data collection and prepared the case report. SP, FM, PK, KK, SK contributed to the design of the case report presentation and performed the final revision of the manuscript.

Data availability

Data available on request from the authors

References

Shifrin EG, Anner H, Levy P, Milgalter E. Arterio-venous fistula in the lower limb in consequence of Fogarty balloon catheter embolectomy. Case report and review of the literature. J Cardiovasc Surg (Torino). 1985 May-Jun;26(3):310-3

AćinF, DeBenitoL, GuilleumaJ, GarcíaPajaresR, MarchJR, BuenoA.Peroneal arteriovenous fistula as a complication of above-knee femoropopliteal polytetrafluorethylene graft thrombectomy with the Fogarty catheter. J Cardiovasc Surg (Torino). 1996 Apr;37(2):113-5

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