Adjunctive vacuum-assisted aspiration thrombectomy in a patient with acute limb ischaemia and peronea arteria magna

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DESCRIPTION

A 63-year-old woman presented with acute left foot ischaemia with pain, sensory loss and moderate motor deficit. She was a heavy smoker with arterial hypertension, hyperlipidaemia and a history of left breast cancer 15 years ago. She urgently underwent a standard Fogarty embolectomy through a left groin common femoral artery incision under local anaesthesia. An arterial embolus with minimal amount of fresh thrombus was retrieved. The leg regained partial mobility and sensation, but the forefoot remained cold, pale and painful. Urgent intraoperative digital subtraction angiogram (DSA) is not normally performed in our department due to staff and equipment problems. The patient underwent a DSA in the Interventional Radiology Suite postoperatively where the equipment and experience are highly available. It revealed a dominant peroneal artery that was occluded above the level of malleolus with a completely deserted foot. Beyond this level, no vessel was opacified (figure 1A). Anterior tibial artery was hypoplastic but patent until mid-calf. An image-guided percutaneous vacuum-assisted aspiration thrombectomy with the INDIGO/PENUMBRA catheter was performed (figure 1B). Through the peroneal artery, using a 6F catheter, thrombus was retrieved from the plantar vessels down to the midsole, restoring normal vessel patency (figures 2 and 3). Posterior tibial pulses were restored, the foot immediately reperfused and pain was relieved. Holter test was normal and lung adenocarcinoma was later diagnosed. We suppose that the cause of



Figure 1 (A) Baseline angiogram shows abrupt cut-off of the anterior tibial and peroneal arteries with missing posterior tibial artery and without any opacification of the foot vessels ('desert foot'). (B) Percutaneous thromboaspiration with use of the INDIGO/PENUMBRA devise across the dominant peroneal artery extending to the distal plantar arch.



Figure 2 Completion angiogram depicts successful recanalisation of the dominant peroneal with brisk filling up of the foot microvasculature.

ALI was thromboembolism due to hypercoagulability related to lung cancer disease (paraneoplastic syndrome). One month later, her leg was asymptomatic and peroneal colour duplex was normal. Dominant peroneal artery (peronea arteria magna)

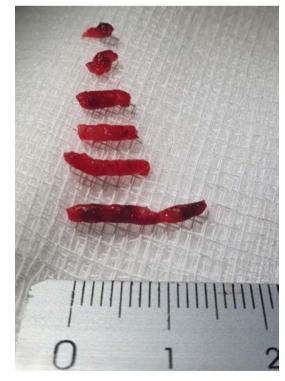


Figure 3 Aspirated thromboemboli after successful foot revascularisation.



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Images in...

is a rare congenital variation (incidence <5%) where a large dominant peroneal artery may perfuse the calf and foot, while the anterior and posterior tibial arteries are hypoplastic. The Indigo/Penumbra device, developed for acute ischaemic stroke, has also gained popularity in acute limb ischaemia with satisfactory results. 1-5

Learning points

- The remaining severe foot ischaemia after a successful surgical Fogarty thromboembolectomy down to the level of malleolus may represent residual obstruction of the plantar arch
- ► New percutaneous techniques like INDIGO/PENUMBRA devise have been proved valuable to remove thrombi in the plantar vasculature.

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