



Fast confirmation of correct position of distal perfusion cannula during venoarterial extracorporeal membrane oxygenation

J. J. H. Bunge^{1,2}, E. A. F. Mahtab³, K. Caliskan² and D. Reis Miranda^{1*} 

© 2018 The Author(s). This article is an open access publication

Lower extremity ischemia is a serious complication in patients treated with venoarterial extracorporeal membrane oxygenation (vaECMO). The Extracorporeal Life Support Organization (ELSO) database reports a 5% incidence of ischemic leg complications, leading to leg amputation in 1% of the vaECMO runs. Pacing a distal perfusion catheter (DPC) in the superficial femoral artery and confirming correct placement are essential.

We present a patient with primary graft dysfunction after heart transplantation. vaECMO was instituted surgically in the right femoral artery and vein with an

ipsilateral 6 Fr, 24 cm DPC (CL-07624, Arrow, Athlone, Ireland) in the common femoral artery. As a result of multiple percutaneous coronary interventions in the past, visual confirmation of the correct placement of the DPC was difficult during surgery. Postoperatively, no Doppler flow could be measured in the popliteal artery. We inserted a “J”-tipped guidewire (0.81 mm, 60 cm, CS-25855, Arrow, Athlone, Ireland) into the DPC and visualized the wire in the popliteal artery using ultrasound (Figs. 1, 2, video in the ESM), confirming the right position.

*Correspondence: d.dosreismiranda@erasmusmc.nl

¹ Department of Intensive Care Adults, Erasmus University Medical Centre, Rotterdam, The Netherlands

Full author information is available at the end of the article

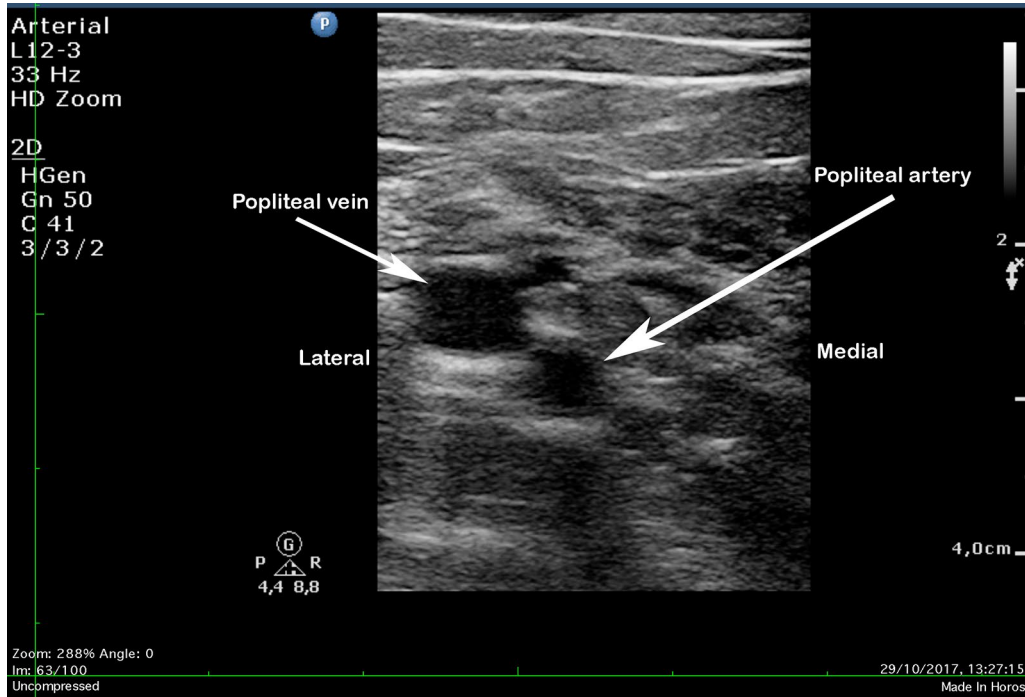


Fig. 1 Popliteal artery and vein in short-axis view, just cranial of the popliteal space. Guidewire not yet visible in the artery

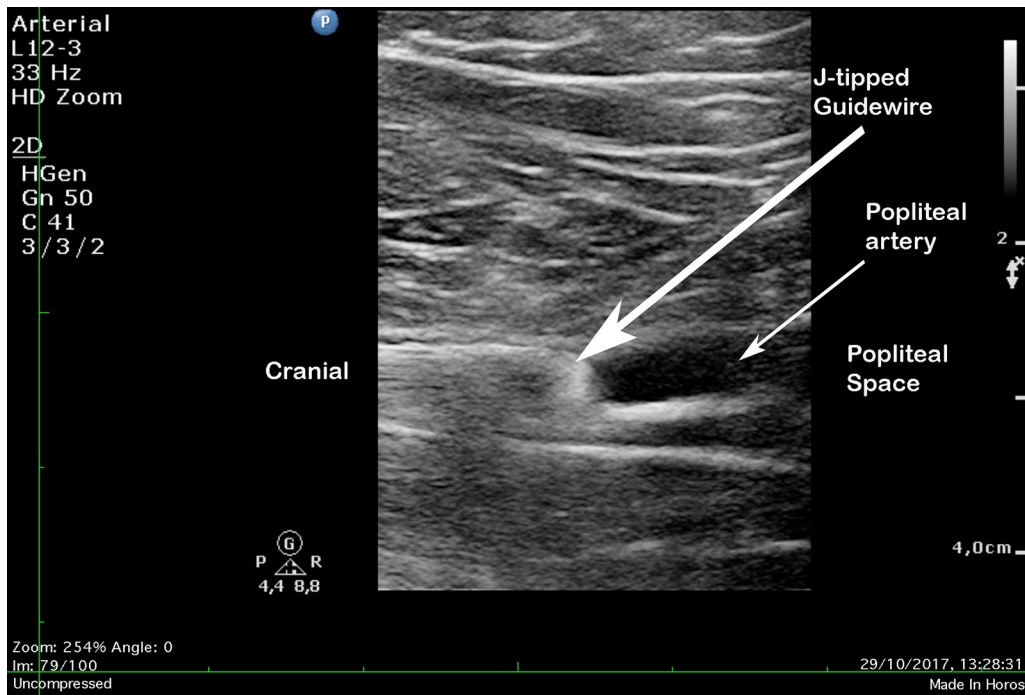


Fig. 2 Popliteal artery in long-axis view just cranial of the popliteal space, while the guidewire is passing through the artery

Electronic supplementary material

The online version of this article (<https://doi.org/10.1007/s00134-017-5044-1>) contains supplementary material, which is available to authorized users.

Author details

¹ Department of Intensive Care Adults, Erasmus University Medical Centre, Rotterdam, The Netherlands. ² Department of Cardiology, Erasmus University Medical Centre, Rotterdam, The Netherlands. ³ Department of Cardio-thoracic Surgery, Erasmus University Medical Centre, Rotterdam, The Netherlands.

Compliance with ethical standards**Conflicts of interest**

D. Reis Miranda has received speaking fees from Xenios GmbH and HillRom. The other authors have no conflicts of interest to declare.

Received: 25 December 2017 Accepted: 30 December 2017

Published online: 22 January 2018