



Central Venous Line With Peripheral Access and Long Duration in the Great Saphenous Vein

Francisco J Romero-Bermejo*; **Inmaculada Palacio-Valverde**

Intensive Care Unit, Hospital HLA Jerez Puerta del Sur Cadiz, Spain.

***Corresponding Author(s): Francisco J Romero-Bermejo**

Intensive Care Unit, HLA Jerez Puerta del Sur Hospital,
Jerez, Cadiz, Spain.

Tel: +34-608959765; Email: romerobermejo@gmail.com

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Case Presentation

The great saphenous vein is the vein with the longest run in our body. It is born on the dorsum of the foot and makes a superficial path to its crook, where it becomes deep, ending in the femoral vein. With the help of vascular ultrasound and x-ray (scopy) we can approach these superficial venous accesses avoiding direct punctures of the femoral vein.

We have found little in the literature on this technique, and the little that has been published dates from the neonatal stage [1]. We have been able to find reports of clinical cases in which peripheral venoclysis has been performed at ankle level [2], but no case in which a PICC is inserted proximal to the vein and, in addition, is tunneled. In adults it seems that we have always

Abstract

Introduction: On occasions, vascular access can be a real care challenge and is subject to iatrogenic and patient safety incidents. In the case of bilateral axillary thrombosis, the options for central venoclysis are very limited. We present the first case in adults of central venoclysis in the proximal greater saphenous vein.

Case presentation: We approached a patient with a severe malabsorption problem, who required daily fluid therapy and had had obstruction of all the PICCs and reservoirs that had been placed. She was diagnosed with bilateral axillary thrombosis by phlebography. After joint assessment with Vascular Surgery and in the absence of contraindications, we decided to approach the right great saphenous vein, tunneling the PICC catheter up to the anterior aspect of the thigh.

Conclusion: Central venoclysis of the great saphenous vein may be a good alternative to femoral venoclysis. The tunneling of the catheter could give better results in the medium to long term. More studies are needed to demonstrate the efficiency of this procedure.

preferred to puncture the femoral vein, both by traditional technique and by ultrasound-guided. We believe that resorting to this type of approach may reduce the complications associated with direct femoral venipuncture in certain indications (it would not be useful, for example, for continuous renal clearance techniques).

A 68-year-old patient with severe short bowel malabsorption syndrome and the need for daily and outpatient parenteral nutrition and fluid therapy. She presented impossibility of approach through the brachial veins due to bilateral axillary-subclavian thrombosis, which was corroborated by bilateral phlebography (**Figure 1**). The patient refused the placement of a catheter with a femoral reservoir, so we decided to implant a central venous access with a peripheral and tunneled approach



in the great saphenous vein. Under scopic and echo-guided control (**Figure 2**), we cannalized the right great saphenous vein and with an Asahi Sion J support guide (0.014"), we inserted a central venous catheter for a peripheral approach PowerPICC (Bard Access Systems), up to 55 cm and with previous tunneling of 4 cm, inserting the tip of the catheter at the mouth of the inferior vena cava in the right atrium (**Figure 3**), without incidents.

During follow-up at 6 months, the catheter continued to function normally.

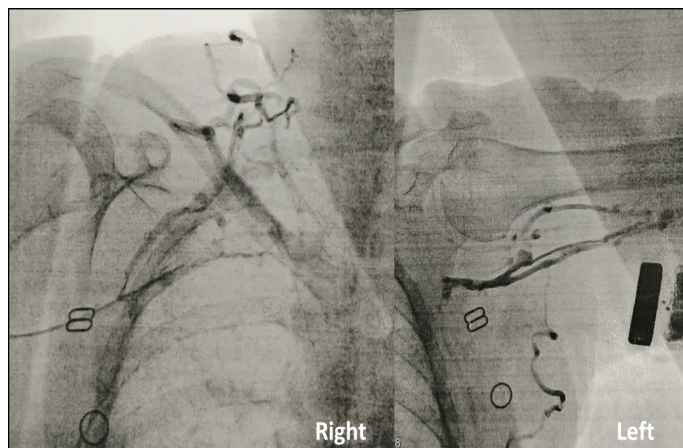


Figure 1: Axilar bilateral thrombosis.



Figure 2: Echo-guided procedure: (a) Great saphenous vein measurements, (b) echo-guided procedure, (c) catheter tunneling.



Figure 3: Tip of the catheter in right atria.

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Conflict of interest

The authors have no relevant financial or non-financial interests to disclose.

Ethics approval: Not applicable.

Consent to participate

The intervention and acquisition of images were carried out with the verbal and written consent of the patient, as recorded in her medical history.

Written consent for publication

We have the verbal and written consent of the patient to make this publication.

Availability of data and material: Not applicable.

Code availability: Not applicable.

Authors contributions

Both authors contributed equally to the preparation and writing of this article.

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