Each patient underwent an ultrasound evaluation during HD treatment to assess the position of the needles inside the vascular access” Nalesso et al (2019).

Abstract:

A native arteriovenous fistula (AVF) is the vascular access of choice for hemodialysis (HD) treatment. Compared with other types of vascular access such as grafts and central venous catheters, it functions longer and is associated with a lower risk of complications. The aim of the study described here was to assess, in an HD population, the position of the fistula needles during an HD session and evaluate the role of ultrasound in the management of AVF puncture. Forty-five consecutive chronic HD patients with an AVF or an arteriovenous vascular graft were included in the study for ultrasound evaluation. Each patient underwent an ultrasound evaluation during HD treatment to assess the position of the needles inside the vascular access. The ultrasound evaluation revealed that 81.8% of the traditional needles were incorrectly adjacent to the vessel walls, in the absence of clinical symptoms or hemodynamic alterations detectable on the dialysis monitor. A greater frequency of malpositioning has been observed for needles in the arterial portion of the vascular access, closer to the anastomosis. The absence of clinically detectable signs of venipuncture-related complications does not ensure correct positioning of the needles within the AVF. Ultrasound evaluation may not only resolve suboptimal cannulation problems of new or complicated vascular accesses but may also be useful in the prevention of acute and chronic damage to the AVF.
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