

Endorsement and evaluation of dialysis access guidelines from the standpoint of the Vascular Access Society

J. Ibeas, J. Malik, M. Gallieni

Corresponding author: Jose Ibeas

Jose Ibeas, MD, PhD
Nephrology Department
Parc Taulí University Hospital,
Institut d'Investigació i Innovació Parc Taulí I3PT,
Autonomous University of Barcelona
Sabadell, Barcelona, España
jibeas@telefonica.net

Prof. Jan Malik, MD, PhD
Complex Cardiovascular Center
General University Hospital and First Faculty of Medicine, Charles University
U nemocnice 1
128 08 Prague
Czech Rep.
jan.malik@lf1.cuni.cz

Maurizio Gallieni, MD
Nephrology and Dialysis Unit - ASST Fatebenefratelli Sacco
Department of Biomedical and Clinical Sciences 'L. Sacco' (DIBIC)
University of Milano, Italy
Via G.B. Grassi 74 – 20157 Milano, Italy
Email: maurizio.gallieni@unimi.it

KeyWord

Guidelines , Vascular Access , Vascular Access Society , Hemodialysis , Position document

Vascular access (VA) is of the utmost importance in chronic haemodialysis in achieving adequate quality of haemodialysis as well as for the morbidity, mortality and quality of life of the patient. In general, using the best VA is associated with the best dialysis adequacy and also with lowest associated morbidity and mortality. Overall, the best access is considered to be the native arteriovenous fistula, followed by grafts and central venous catheters [1], although in the individual patient the best choice may be different. Indeed, it is increasingly difficult to create native arteriovenous fistulae in fragile, elderly patients affected by multiple comorbidities. In addition, there is a lack of optimization of the resources necessary to create native fistulae and AV grafts. However, adopting strategies that bear in mind an AV fistula-oriented or “catheter last” approach may determine an improvement in native vascular access rates [2].

In this perspective, it is essential to adequately control all the necessary steps in the process of fistula creation and in its follow-up for the prevention, detection and treatment of complications. To facilitate decision-making, it is mandatory collecting and grading the evidence, then converting it into recommendations to help the clinician make decisions in daily clinical practice. This is why clinical practice guidelines are developed, however, it is not always easy to transfer them into practice, especially in the complex field of VA. The limited evidence available in many aspects of dialysis access, the diversity of medical and surgical specialities involved in VA preparation and management, and the great diversity of associated procedures are all elements of complexity in achieving guidelines that can be universally adopted.

It has been quite some time since the first set of guidelines were published in this area [3-6]. Recently, at a national level, new guidelines have been published by the UK Renal Association [7] and by the Spanish Multidisciplinary Group on Vascular Access (GEMAV) [8]. In addition, the European Society for Vascular Surgery (ESVS) recently produced new international guidelines [9]. The ESVS clinical practice guidelines are mainly directed at surgeons, but also at other professionals, who are involved in the care of patients with haemodialysis vascular access. Their aim is to summarize and present the available evidence, to assist physicians in selecting the best management strategies for all patients needing VA, and to approach pathologies associated with VA. These guidelines review the aspects of pre-operative, peri-operative and post-operative care and long-term maintenance. In addition to

reviewing the main aspects that the clinician needs in daily clinical practice for decision-making in arteriovenous fistula issues, it also reviews areas where the surgical approach, which can pose a challenge for the surgeon, stands out.

VA guidelines represent a useful decision-making tool during daily clinical practice not only for surgeons, but also for all professionals involved in VA management. Undoubtedly, their use can improve the quality of dialysis, the decline of associated morbidity and mortality and the quality of life of the renal patient. That is why the Vascular Access Society, which was represented by some of the clinicians involved in the ESVS guidelines working group, wants to praise not only the efforts involved in updating this field, but also appreciate the help these guidelines will provide to all professionals who assume responsibility for decision-making in this field every day.

However, sometimes it may not be easy for the clinician to find the right answer to a specific question when looking at different guidelines, addressing different issues in different ways, according to the context in which the guidelines were developed. In the ESVS guideline, for example, the issue of central venous catheters for haemodialysis is not addressed and guidelines do not delve into the subject of ultrasonography, including surveillance [10 -12], but, on the other hand, a more exhaustive review is made in aspects concerning surgery. The upcoming revision of the guidelines of the European Renal Association and European Association of Dialysis and Transplant (ERA-EDTA) and the National Kidney Foundation (NKF-DOQI) can also present some differences, as they logically arise from different settings. Therefore, in this context, the Vascular Access Society intends to publish some "Position Documents" to summarize both the evidence and the recommendations regarding specific issues addressed by the different new VA guidelines, which will be available soon. Therefore, the whole vascular access community will have to be ready to integrate the new updates into their existing practices in the most coherent way possible. The Vascular Access Society will be supporting this process.

References

1. Bradbury BD, Fissell RB, Albert JM, Anthony MS, Critchlow CW, Pisoni RL, et al. Predictors of early mortality among incident US hemodialysis patients in the Dialysis Outcomes and Practice Patterns Study (DOPPS). *Clin J Am Soc Nephrol*. 2007;2:89-99.
2. Port FK, Morgenstern H, Bieber BA, Karaboyas A, McCullough KP, Tentori F, Pisoni RL, Robinson BM. Understanding associations of hemodialysis practices with clinical and patient-reported outcomes: examples from the DOPPS. *Nephrol Dial Transplant*. 2017 Apr 1;32(suppl_2):ii106-ii112
3. Tordoir J, Canaud B, Haage P, et al. European best practice guidelines (EBPG) on vascular access. *Nephrol Dial Transplant* 2007;22 (Suppl 2):ii88-ii117.
4. NFK/DOQI. Clinical Practice Guidelines for Vascular Access. *Am J Kidney Dis*. 2006;48 Suppl 1:S176-273
5. Jindal K, Chan CT, Deziel C, Hirsch D, Soroka SD, Tonelli M, et al; Canadian Society of Nephrology Committee for Clinical Practice Guidelines. Hemodialysis clinical practice guidelines for the Canadian Society of Nephrology. *J Am Soc Nephrol*. 2006;17(3 Suppl 1):S1-27.
6. Ohira S, Naito H, Amano I, Azuma N, Ikeda K, Kukita K, et al. 2005 Japanese Society for Dialysis Therapy guidelines for vascular access construction and repair for chronic hemodialysis. *Ther Apher Dial*. 2006;10:449-62.
7. UK Renal Association. Clinical practice guideline vascular access for haemodialysis. <https://renal.org/wp-content/uploads/2017/06/vascular-access.pdf> (Accessed November 11th, 2018)
8. Ibeas J, Roca-Tey R, Vallespín J, Moreno T, Moñux G, Martí-Monrós A et al. Spanish clinical guidelines on vascular access for haemodialysis. *Nefrologia*. 2017 Nov;37 Suppl 1:1-191
9. Schmidli J, Widmer MK, Basile C, et al. Editor's Choice - Vascular Access: 2018 Clinical Practice Guidelines of the European Society for Vascular Surgery (ESVS). *Eur J Vasc Endovasc Surg*. 2018; 55(6): 757-818.
10. Malik J, Kudlicka J, Novakova L, Adamec J, Malikova H, Kavan J. Surveillance of arteriovenous accesses with the use of duplex Doppler ultrasonography. *J Vasc Access*. 2014;15 Suppl 7:S28-32.
11. Guedes-Marques M, Maia PA, Neves F et al. Does pre- and post-angioplasty Doppler ultrasound evaluation help in predicting vascular access outcome? *J Vasc Access* 2016; 17(6): 465 - 470
12. Roca-Tey R, Ibeas J, Moreno T et al. Dialysis arteriovenous access monitoring and surveillance according to the 2017 Spanish Guidelines. *J Vasc Access*. 2018 Sep;19(5):422-429