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Vascular access: where are we heading? An answer from our neighbours: an important statement

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Vascular access (VA) plays a central role in the treatment of haemodialysis (HD) patients mainly for two reasons: first, as the key factor in enabling dialysis adequacy, and second, as a major cause of morbidity and mortality, as well as associated costs. Weighing all this up, the arteriovenous fistula (AVF) is generally accepted as the VA of choice in HD patients[1]. But considering an increasing prevalence of comorbidities, such as vascular disease and diabetes *mellitus*, in the HD population, the creation and maintenance of a patent and well-functioning AVF has become a demanding task[2]. In the search for the answer to this herculean mission, clinical practice guidelines[3-5] recommended preoperative evaluation including Doppler ultrasound (US) in order to allow the placement of an AVF in a higher number of patients and, after the creation of a VA, to assess its maturation process. This is followed by periodic monitoring and surveillance, as it is considered that early detection of access dysfunction and subsequent intervention would help to reduce the rate of access failure.

Observational studies focusing on preoperative vascular mapping, together with a few randomized trials bearing the same evidence in support of vascular mapping[6,7], showed that there was an increase in the total number of patients with fistulae, including distally placed fistulae, venous capital was saved for later exploration and outcomes in terms of patency and use for dialysis were improved[8].

When considering early assessment of pathologically non-matured VA, it is also widespread opinion that prompt correction of underlying problems may salvage these VA[9]. These latter two points are mainly consensual; however, despite numerous observational studies evidencing favourable outcomes through surveillance, such as a significant decrease in access thrombosis and prolonged access life[10-12], the surveillance of VA has fallen into discredit in the light of recent findings. This is mainly driven by conflicting results from randomized controlled trials (RCT) compiled on the basis of the meta-analysis by Tonelli *et al.*, where he highlights that although surveillance with access blood flow measurements decreases the risk of access thrombosis in AVF, it does not significantly increase secondary patency and, in the case of grafts, no surveillance method prevents access thrombosis[13]. These findings have surely brought surveillance to a sharp and dangerous edge, leading many to doubt its value. However, apart from the commented bias of the selected trials, Tuka and Malik pointed out other non-adjusted bias as for the VA vintage and the non-assessment of haemodynamic stenosis criteria, leading to unnecessary vascular interventions in many cases[14]. Krivitski, on the other hand, highlights the likely low efficacy of undertaken angioplasties, which would hamper any results of prolonging assisted patency[15], not to mention the significant decrease in risk of hospitalization and central venous catheterization that are known

independent risk factors for morbidity and mortality in HD patients. Despite the poor-to-moderate quality of the selected RCT, some other authors' piercing opinion[16], branding the alleged low utility of surveillance, raised overwhelming challenges in an economically-driven world. This rendered surveillance rather unappealing on the other side of the Atlantic, as it is not reimbursed by Medicare and other insurance companies. While hoping for a well-designed, adequately powered RCT to evaluate the value and benefits of surveillance as some desire[17], in complete contrast, the European point of view could not be more different as monitoring/surveillance keeps gaining strength. In support of surveillance and after a considerable time gap since the previous guidelines were published, the new Spanish VA guidelines were presented in the latest Vascular Access Society Congress. These are the first guidelines to be reinforced by a true consensus, as it was produced by all five major medical groups involved in vascular access, thereby representing a true multidisciplinary approach where nephrologists, vascular surgeons, interventional radiologists, haemodialysis' nurses and infectious diseases' specialists come together for the first time. Sustaining a patient-centred approach, these new guidelines afford surveillance a renewed position, with US assuming a major role in multiple directions, such as mapping, surveillance and dysfunction assessment, providing multi-level grades of recommendation. Apart from some new but consensual recommendations that are taken into consideration on the basis of the latest findings, where the IDEAL study states that initiation of dialysis should be later than sooner[17] and, therefore, the same trend should be followed when referring to VA construction, those issues related to VA monitoring and surveillance really come to stir the waters.

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