

difficult, the real depth of the vessels with respect to the skin plane, and the presence/diameter of large collateral veins near the site chosen for the anastomosis. Such information is difficult to deduce from a report, but it is instead easy to acquire if the surgeon himself carries out the preoperative evaluation, and this information can influence the selection of blood vessels (AVF location) and the intervention planning by the surgeon. Therefore, the surgeon who wants to devote himself to the creation of vascular accesses for hemodialysis should acquire specific skills in order to carry out the preoperative ultrasound evaluation firsthand.

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REFERENCES

- Farrington CA, Robbin ML, Lee T, Barker-Finkel J, Allon M: Early predictors of arteriovenous fistula maturation: A novel perspective on an enduring problem. *J Am Soc Nephrol* 31: 1617–1627, 2020
- Allon M: Vascular access for hemodialysis patients: New data should guide decision making. *Clin J Am Soc Nephrol* 14: 954–961, 2019
- Allon M: Arteriovenous grafts: Much maligned but in need of reconsideration? *Semin Dial* 30: 125–133, 2017
- Ibeas J, Roca-Tey R, Vallespín J, Moreno T, Moñux G, Martí-Monrós A, et al.; por el Grupo Español Multidisciplinar del Acceso Vascular (GE-MAV): Spanish clinical guidelines on vascular access for haemodialysis [published correction appears in *Nefrología* 39: 1–2, 2019]. *Nefrología* 37[Suppl 1]: 1–191, 2017
- Beathard G: Patient evaluation prior to placement of hemodialysis arteriovenous access. UpToDate, 2020. Available at: www.uptodate.com. Accessed June 9, 2020
- Allon M, Greene T, Dember LM, Vita JA, Cheung AK, Hamburg NM, et al.; Hemodialysis Fistula Maturation Study Group: Association between preoperative vascular function and postoperative arteriovenous fistula development. *J Am Soc Nephrol* 27: 3788–3795, 2016
- Malovrh M: Non-invasive evaluation of vessels by duplex sonography prior to construction of arteriovenous fistulas for haemodialysis. *Nephrol Dial Transplant* 13: 125–129, 1998
- Choi KL, Salman L, Krishnamurthy G, Mercado C, Merrill D, Thomas I, et al.: Impact of surgeon selection on access placement and survival following Preoperative Mapping in the “Fistula First” era. *Semin Dial* 21: 341–345, 2008
- Basile C, Lomonte C: The operating surgeon is the major determinant for a successful arteriovenous fistula maturation. *Kidney Int* 72: 772, 2007

See related Letters to the Editor, “Authors’ Reply,” on pages 2228–2229.

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Authors’ Reply

In our paper¹ “Early predictors of arteriovenous fistula maturation: A novel perspective on an enduring problem,” we demonstrated a linear relationship between the preoperative arterial diameter and arteriovenous fistula (AVF) maturation. Our finding is novel given that, in much of the previously published literature, the preoperative venous diameter has been deemed the primary determinant of AVF maturation in adult patients with advanced stage kidney disease, and little attention has been paid to the role of the artery in the process of AVF maturation. However, we recognize that successful AVF maturation is influenced by additional factors, including patient comorbidities, surgeon experience, and the quality of the native blood vessels.

Zamboli *et al.*² raise two important issues for consideration. The first is the ability of the native artery to dilate and accommodate higher blood flow rates following AVF creation. Measurement of brachial arterial function by flow-mediated dilation or nitroglycerin-mediated dilation has been associated with AVF maturation.^{3,4} However, in our experience, vascular function studies are time consuming and highly operator dependent, which may pose significant challenges to their widespread use outside of the research setting.

We also agree with the authors’ second point that having a skilled surgeon who performs his or her own preoperative vascular mapping is ideal. In practice, however, many surgeons may need to rely upon the expertise of their radiology colleagues to assist with access planning. Provided that AVF maturation is a challenging, multifaceted process, developing a collaborative approach using the skills and resources of a comprehensive vascular access team offers a reasonable solution for clinicians seeking to optimize vascular access care for their patients on hemodialysis.⁵

Kidney Disease Outcomes Quality Initiative guidelines on vascular access have recently been updated to reflect the complexities involved in choosing an appropriate vascular access on the basis of the individual needs and wishes of patients, projected life expectancy, social support, and other contributing factors outside of preoperative vessel size or quality.⁶ In

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particular, we agree that younger patients with greater life expectancy could be disadvantaged in the long term if the preoperative arterial diameter is the only consideration for AVF creation. We strongly advise against an access planning strategy that uses preoperative arterial diameter as the sole determinant of who receives an AVF. Rather, we contend that preoperative arterial diameter is an important, under-recognized, and easy to evaluate factor that should be routinely incorporated into the holistic evaluation of any patient undergoing vascular access creation.

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REFERENCES

1. Farrington CA, Robbin ML, Lee T, Barker-Finkel J, Allon M: Early predictors of arteriovenous fistula maturation: A novel perspective on an enduring problem. *J Am Soc Nephrol* 31: 1617–1627, 2020
2. Zamboli P, Punzi M, Bracale UM, Pisani A: Early predictors of arteriovenous fistula maturation: Preoperative arterial diameter alone is not enough. *J Am Soc Nephrol* 31: 2226–2228, 2020
3. Owens CD, Wake N, Kim JM, Hentschel D, Conte MS, Schanzer A: Endothelial function predicts positive arterial-venous fistula remodeling in subjects with stage IV and V chronic kidney disease. *J Vasc Access* 11: 329–334, 2010
4. Allon M, Greene T, Dember LM, Vita JA, Cheung AK, Hamburg NM, et al.; Hemodialysis Fistula Maturation Study Group: Association between preoperative vascular function and postoperative arteriovenous fistula development. *J Am Soc Nephrol* 27: 3788–3795, 2016
5. Allon M, Bailey R, Ballard R, Deierhoi MH, Hamrick K, Oser R, et al.: A multidisciplinary approach to hemodialysis access: prospective evaluation. *Kidney International* 53: 473–479, 1998. 10.1046/j.1523-1755.1998.00761.x
6. Lok CHT, Lee T, Shenoy S, Yevzlin AS, Abreo K, Allon M, et al.: KDOQI clinical practice guideline for vascular access: 2019 update. *Am J Kidney Dis* 75: S1–S164, 2020

See related Letters to the Editor, “Early Predictors of Arteriovenous Fistula Maturation: Preoperative Arterial Diameter Alone Is Not Enough,” on pages 2226–2228.

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