A 56-year-old woman with end-stage renal disease had creation of a percutaneous arteriovenous fistula (pAVF) at the level of the proximal forearm between the proximal radial artery (PRA) and the deep communicating vein. The Ellipsys Vascular Access System (Avenu Medical, San Juan Capistrano, Calif), Food and Drug Administration approved for pAVF creation, uses thermal energy and pressure to fuse a permanent arteriovenous anastomosis between sufficiently adjacent vessels. The anatomic location is similar to the one described by Jennings et al for surgical AVF with PRA inflow. Nonetheless, the pAVF is physiologically different as no afferent or efferent branches are ligated during creation, contrary to surgical fistula creation. Therefore, venous flow is maintained in case of anastomosis occlusion, which prevents complete fistula thrombosis. Furthermore, arterial inflow through the anastomosis is divided through multiple branches, reducing the pressure- and shear stress-related wear and tear long-term complications that are often observed with surgical AVF.

Nineteen months after creation of this pAVF, no additional interventions have been required, whereas two needle cannulation and dialysis treatments were performed without problems. Computed tomography scan was performed 14 months after creation of the pAVF.

REFERENCES

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