Lower extremity arteriovenous (AV) access is an alternative when upper extremity access options have been exhausted. Our goal was to assess short- and medium-term outcomes of lower extremity hemodialysis access” Pike et al (2019).

Abstract:

OBJECTIVE: Lower extremity arteriovenous (AV) access is an alternative when upper extremity access options have been exhausted. Our goal was to assess short- and medium-term outcomes of lower extremity hemodialysis access.

METHODS: The Vascular Quality Initiative was reviewed for all lower extremity AV hemodialysis cases. Patient and case details were recorded. Multivariable analysis was used to analyze outcomes.

RESULTS: We identified 463 lower extremity AV access cases in the VQI registry. There were 56 AVF (12.1%) and 407 AVG (87.9%). The mean age was 56 ± 15 years, 46.9% were male, and 40.7% were Caucasian. The majority (90%) had a previous upper extremity AV access and 25.4% had a prior lower extremity access. More than one-half (57.9%) had a tunneled line at the time of the procedure. Patients undergoing an AVF vs AVG creation were younger, more often ambulatory, and less often with peripheral arterial disease. For AVF, the superficial femoral artery was more often used for access inflow (76.8% vs 49.4%; P < .001), compared with AVG, and there was no difference in using femoral vein as the main outflow
(78.6% vs 82.6%; \(P = .466\)). For AVF, compared with AVG, there was no difference in wound infection (12.5% vs 9.6%; \(P = .571\)), ischemic steal (5% vs 2.2%; \(P = .273\)), or leg swelling (2.5% vs 3.3%; \(P = .99\)) at 6 months. Kaplan-Meier analysis of the overall cohort showed that freedom from loss of primary patency at 6 months was 52.9%, freedom from any reintervention at 6 months was 75.3%, and the 1-year survival was 81.9%. Survival at 5 years was 65.5%. Multivariable analysis showed no significant association of access type (AVF vs AVG) with primary patency loss or death (hazard ratio [HR], 0.74; 95% confidence interval [CI], 0.36-1.5; \(P = .4\)), any reintervention or death (HR, 1.65; 95% CI, 0.82-3.33; \(P = .163\)), or mortality (HR, 1.94; 95% CI, 0.71-5.33; \(P = .197\)). Factors independently associated with primary patency loss or death included peripheral arterial disease (HR, 1.6; 95% CI, 1.06-2.42; \(P = .03\)) and obesity (HR, 1.5; 95% CI, 1.1-2.05; \(P = .01\)). Any reintervention or death was associated with obesity (HR, 1.67; 95% CI, 1.09-2.56; \(P = .015\)). Mortality was associated with congestive heart failure (HR, 1.82; 95% CI, 1.13-2.94; \(P = .015\)) and white race (HR, 1.71; 95% CI, 1.08-2.73; \(P = .023\)).

CONCLUSIONS: In our contemporary multicenter analysis, patients undergoing lower extremity AV access creation have low primary access patency and almost 20% mortality at 1 year. These results should be considered when suggesting a lower extremity dialysis access, as well as other dialysis alternatives when available.

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