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Comparison of Forearm Versus Upper Arm Basilic Transposition Arteriovenous Fistulas Demonstrates Equivalent Satisfactory Patency

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Abstract Body:

OBJECTIVES
End-stage renal disease remains a significant health problem in the United States. In accordance with KDOQI (Kidney Disease Outcomes Quality Initiative) recommendations, attaining autogenous hemodialysis access, specifically via creation of radiocephalic, brachial-basilic (BB-AVF), or brachial-cephalic fistulas, is preferred. The aim of this study is to determine the suitability of forearm basilic vein transposition (FBVT) fistulas as an alternative access option by comparing outcomes to those of BB-AVFs.

METHODS
All patients who underwent creation of FBVT between 2007 and 2015 were retrospectively identified in the electronic medical record and compared to a sample of patients undergoing BB-AVF placement during this time. Access patency was examined using Kaplan-Meier methods and Cox proportional hazards regression.

RESULTS
34 patients with FBVT (median age 54 years, 67.6% male) and 49 with BB-AVF (median age 57 years, 42.9% male) were included in the study. There were no significant differences in comorbid conditions between the two groups, with the exception of hyperlipidemia (29.4% FBVT vs 53.1% BB-AVF, P=0.03). While those with FBVT were more likely to have had previous permanent access attempts (70.6% vs 38.7%, P=0.002), and access attempts on the same extremity (44.1% vs 24.4%, P=0.04), there were no significant differences in primary patency (46.9% vs 53.3%, P=0.6), primary-assisted patency (65.6% vs 73.3%, P=0.5), or secondary patency (68.8% vs 82.2%, P=0.2) at one year when compared to BB-AVF. The risk of loss of patency was not statistically different for FBVT as compared to BB-AVF (HR 1.37, 95% CI 0.65-2.88, P=0.4). This risk did not vary for those who had previous access on the same arm (interaction P=0.8). Four fistulas in each group failed to mature. Only one infectious complication was identified in the FBVT group.

CONCLUSION
With the exception of one prior study including only 10 patients with FBVTs, no studies have directly compared outcomes of FBVTs to BB-AVFs. Despite the increased difficulty of harvesting the forearm basilic vein, particularly in patients who have had prior access attempts, there was no significant difference in patency between FBVTs and BB-AVFs. FBVTs are a reasonable option for hemodialysis access, particularly in patients without adequate cephalic veins, or who previously failed radiocephalic fistula attempts.

Author Disclosure Block: