



This study aimed to report the long-term outcomes for different types of first permanent VA, and identify factors that affected outcomes in a cohort of patients undergoing HD at a single renal unit” Alexander et al (2017).

Abstract:

Background: Vascular access (VA) is essential for successful hemodialysis (HD) but its provision poses significant challenges to renal services. This study aimed to report the long-term outcomes for different types of first permanent VA, and identify factors that affected outcomes in a cohort of patients undergoing HD at a single renal unit.

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Methods: Data recorded before April 1, 2013, were collected on factors related to patient characteristics and VA management. Univariate analysis of VA survival was undertaken using the Kaplan-Meier method with log-rank testing used to test for differences between subgroups. Secondary outcomes included VA complication and intervention rates.

Results: Of those first permanent VA attempts (n = 103), 26.2% were radiocephalic arteriovenous fistulae (RCAVF), 54.4% were brachiocephalic arteriovenous fistulae (BCAVF),

10.7% were transposed basilic arteriovenous fistulae (TBAVF), and the remaining 8.7% were polytetrafluoroethylene forearm loop arteriovenous grafts (AVG). Overall cumulative secondary VA survival rates at 6, 12, and 24 months were 90.9%, 82.8%, and 73.4%, respectively. Complication rates for RCAVF, BCAVF, TBAVF, and AVG were 0.5, 1.2, 4.5, and 2.6 per patient year on HD, respectively. Intervention rates for RCAVF, BCAVF, TBAVF, and AVG were 0.4, 0.8, 2.9, and 2.1 per patient year on HD, respectively. A primary renal diagnosis of diabetes ($P = 0.022$), use of temporary central venous catheter ($P = 0.003$) or rope-ladder needling ($P = 0.013$), and the use of TBAVF or AVG ($P < 0.001$) were predictive of significantly poorer VA survival.

Conclusions: RCAVF and BCAVF were associated with significantly superior outcomes compared with TBAVF and AVG in terms of complication and intervention rates, and long-term survival.

Reference:

Alexander, C.E., Wolf, B. and Joss, N. (2017) A Single-Institution Study of Permanent Vascular Access Outcomes in Patients undergoing Hemodialysis. *The Journal of the Association for Vascular Access*. 22(2), p.81-87.

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