

Impact of surgeon and surgical center characteristics on choice of permanent vascular access

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Abstract:

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Background.

The impact of the surgeon and surgical center characteristics on choice of autogenous arteriovenous (AV) fistula versus artificial AV graft as permanent vascular access for hemodialysis has not been studied. Methods.

We used national data from the Department of Veterans Affairs Veterans Health Administration to measure the association of surgeon and surgical center characteristics with choice of initial permanent vascular access among patients undergoing their first vascular access placement procedure between October 1, 2000 and September 30, 2001 (fiscal year 2001). Data were analyzed using a hierarchical logistic regression model clustered for surgical center and surgeon. Results.

The study population included 1114 patients, 74 Veterans Administration Medical Centers, and 182 surgeons. Seventy-two percent of patients received an AV fistula as their initial form of permanent vascular access. After adjusting for differences in patient, center, and surgeon characteristics, odds of AV fistula placement at high volume centers (>30 procedures per year) were more than three times greater than at low volume centers [odds ratio (OR) 3.26, 95% confidence interval (95% CI) 1.37 to 7.75, $P = 0.008$]. In addition, a strong clustering effect was present at the level of the surgeon (OR 1.55, 95% CI 1.19 to 2.03, $P = 0.001$) but not at the level of the surgical center, indicating an association with surgeon practice pattern. Conclusion.

Barriers to AV fistula placement can exist at the levels of the surgeon and surgical center, respectively. Future strategies to improve AV fistula placement rates should target surgeons and surgical centers in addition to patients, nephrologists, and primary care providers.