



Intravenous literature: Xue, H., Ix, J.H., Wang, W., Brunelli, S.M., Lazarus, M., Hakim, R. and Lacson, E. Jr. (2012) Hemodialysis Access Usage Patterns in the Incident Dialysis Year and Associated Catheter-Related Complications. American Journal of Kidney Diseases. Nov 16. .

Abstract:

BACKGROUND: Hemodialysis (HD) access is considered a critical and actionable determinant of morbidity, with a growing literature suggesting that initial HD access type is an important marker of long-term outcomes. Accordingly, we examined HD access during the incident dialysis period, focusing on infection risk and successful fistula creation during the first dialysis year.

STUDY DESIGN: Longitudinal cohort.

SETTING & PARTICIPANTS: All US adults admitted to Fresenius Medical Care North America facilities within 15 days of first maintenance dialysis session between January 1 and December 31, 2007.

PREDICTOR: Vascular access type at HD therapy initiation.

OUTCOMES: Vascular access type at 90 days and at the end of the first year on HD therapy, bloodstream infection within the first year by access type, and catheter complication rate.

RESULTS: Of 25,003 incident dialysis patients studied, 19,622 (78.5%) initiated dialysis with a catheter; 4,151 (16.6%), with a fistula; and 1,230 (4.9%), with a graft. At 90 days, 14,105 (69.7%) had a catheter, 4,432 (21.9%) had a fistula, and 1,705 (8.4%) had a graft.

Functioning fistulas and grafts at dialysis therapy initiation had first-year failure rates of 10% and 15%, respectively. Grafts were seldom replaced by fistulas (3%), whereas 7,064 (47.6%) of all patients who initiated with a catheter alone still had only a catheter at 1 year. Overall, 3,327 (13.3%) patients had at least one positive blood culture during follow-up, with the risk being similar between the fistula and graft groups, but approximately 3-fold higher in patients with a catheter (P LIMITATIONS:

Potential underestimation of bacteremia because follow-up blood culture results did not include samples sent to local laboratories.

CONCLUSIONS: In a large and representative population of incident US dialysis patients, catheter use remains very high during the first year of HD care and is associated with high mechanical complication and bloodstream infection rates.

