

Despite extended central venous catheter dependence, elderly patients initiating hemodialysis with a central venous catheter who underwent arteriovenous fistula placement within 6 months had fewer hospitalizations due to infections and a lower likelihood of death than those receiving an arteriovenous graft” Lee et al (2017).

Abstract:

BACKGROUND AND OBJECTIVES: The optimal type of initial permanent access for hemodialysis among the elderly is controversial. Duration of central venous catheter dependence, patient comorbidities, and life expectancy are important considerations in whether to place an arteriovenous fistula or graft. We used an observational study design to compare clinical outcomes in elderly patients who initiated hemodialysis with a central venous catheter and subsequently had an arteriovenous fistula or graft placed.

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DESIGN, SETTING, PARTICIPANTS, & MEASUREMENTS: We identified 9458 United States patients ages ≥ 67 years old who initiated hemodialysis from July 1, 2010 to June 30, 2011 with a central venous catheter and no secondary vascular access and then received an arteriovenous fistula (n=7433) or graft (n=2025) within 6 months. We evaluated key clinical outcomes during the 6 months after vascular access placement coincident with high rates of catheter use and used a matched propensity score analysis to examine patient survival.

RESULTS: Central venous catheter dependence was greater in every month during the 6-month period after arteriovenous fistula versus graft placement ($P < 0.001$). However, rates of all-cause infection-related hospitalization (adjusted relative risk, 0.93; 95% confidence interval, 0.87 to 0.99; $P = 0.01$) and bacteremia/septicemia-related hospitalization (adjusted relative risk, 0.90; 95% confidence interval, 0.82 to 0.98; $P = 0.02$) were lower in the arteriovenous fistula versus graft group as was the adjusted risk of death (hazard ratio, 0.76; 95% confidence interval, 0.73 to 0.80; $P < 0.001$).

CONCLUSIONS: Despite extended central venous catheter dependence, elderly patients initiating hemodialysis with a central venous catheter who underwent arteriovenous fistula placement within 6 months had fewer hospitalizations due to infections and a lower likelihood of death than those receiving an arteriovenous graft.

Reference:

Lee, T., Thamer, M., Zhang, Q., Zhang, Y. and Allon, M. (2017) Vascular Access Type and Clinical Outcomes among Elderly Patients on Hemodialysis. *Clinical Journal of the American Society of Nephrology*. August 10th. .

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