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Vascular Access Type and Clinical Outcomes among Elderly Patients on Hemodialysis

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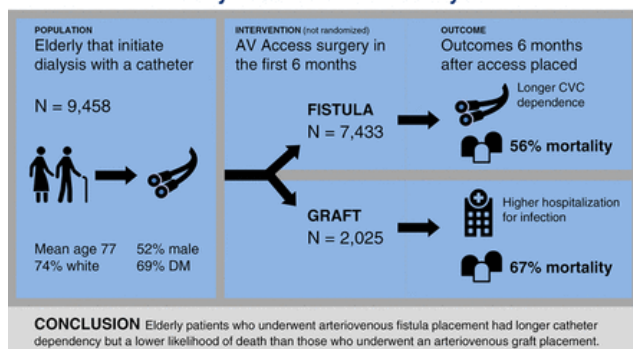
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Vascular Access Type and Clinical Outcomes among Elderly Patients on Hemodialysis



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[Table of Contents](#)

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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.

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.

dialysis access dialysis Aged arteriovenous fistula
Arteriovenous Shunt, Surgical Bacteremia Central Venous Catheters
Confidence Intervals hospitalization Humans Life Expectancy
Propensity Score renal dialysis Risk Sepsis

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