

“We performed a decision analysis evaluating AV fistula, AV graft, and central venous catheter (CVC) strategies for patients initiating hemodialysis with a CVC, a scenario occurring in over 70% of United States dialysis patients. A decision tree model was constructed to reflect progression from hemodialysis initiation.” Drew et al (2014).

Reference:

Drew, D.A., Lok, C.E., Cohen, J.T., Wagner, M., Tangri, N. and Weiner, D.E. (2014) Vascular Access Choice in Incident Hemodialysis Patients: A Decision Analysis. Journal of the American Society of Nephrology. July 25th. .

Decision analysis associated with vascular access choice in hemodialysis patients
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Abstract:

Hemodialysis vascular access recommendations promote arteriovenous (AV) fistulas first; however, it may not be the best approach for all hemodialysis patients, because likelihood of successful fistula placement, procedure-related and subsequent costs, and patient survival modify the optimal access choice. We performed a decision analysis evaluating AV fistula, AV graft, and central venous catheter (CVC) strategies for patients initiating hemodialysis with a CVC, a scenario occurring in over 70% of United States dialysis patients. A decision tree model was constructed to reflect progression from hemodialysis initiation. Patients were classified into one of three vascular access choices: maintain CVC, attempt fistula, or attempt graft. We explicitly modeled probabilities of primary and secondary patency for each access type, with success modified by age, sex, and diabetes. Access-specific mortality was incorporated using preexisting cohort data, including terms for age, sex, and diabetes. Costs were ascertained from the 2010 USRDS report and Medicare for procedure costs. An AV fistula attempt strategy was found to be superior to AV grafts and CVCs in regard to mortality and cost for the majority of patient characteristic combinations, especially younger men without diabetes. Women with diabetes and elderly men with diabetes had similar outcomes, regardless of access type. Overall, the advantages of an AV fistula attempt strategy lessened considerably among older patients, particularly women with diabetes, reflecting the effect of lower AV fistula success rates and lower life expectancy. These results suggest that vascular access-related outcomes may be optimized by considering individual patient characteristics.

Other intravenous and vascular access resources that may be of interest (External links - IVTEAM has no responsibility for content).

- [Guide for intravenous chemotherapy and associated vascular access devices from Macmillan.](#)
- [CancerUK IV chemotherapy information.](#)

