

Early cannulation arteriovenous grafts (ecAVGs) are proposed as an alternative to tunneled central venous catheters (TCVCs) in patients requiring immediate vascular access for hemodialysis (HD). We compared bacteremia rates in patients treated with ecAVG and TCVC” Aitken et al (2017).

Abstract:

OBJECTIVE: Early cannulation arteriovenous grafts (ecAVGs) are proposed as an alternative to tunneled central venous catheters (TCVCs) in patients requiring immediate vascular access for hemodialysis (HD). We compared bacteremia rates in patients treated with ecAVG and TCVC.

METHODS: The study randomized 121 adult patients requiring urgent vascular access for HD in a 1:1 fashion to receive an ecAVG with or without (+/-) an arteriovenous fistula (AVF; n = 60) or TCVC+/-AVF (n = 61). Patients were excluded if they had active systemic sepsis, no anatomically suitable vessels, or an anticipated life expectancy.

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RESULTS: Culture-proven bacteremia developed in 10 patients (16.4%) in the TCVC arm \leq 6 months compared with two (3.3%) in the ecAVG+/-AVF arm (risk ratio, 0.2; 95% confidence interval, 0.12-0.56; P = .02). Mortality was also higher in the TCVC+/-AVF cohort (16% vs 5% ; risk ratio, 0.3; 95% CI, 0.08-0.45; P = .04). The difference in treatment cost between the two arms was not significant (£11,393 vs £9692; P = .24).

CONCLUSIONS: Compared with TCVC+/-AVF, a strategy of ecAVG+/-AVF reduced the rate of culture-proven bacteremia and mortality in patients requiring urgent vascular access for HD. The strategy also proved to be cost-neutral.

Reference:

Aitken, E., Thomson, P., Bainbridge, L., Kasthuri, R., Mohr, B. and Kingsmore, D. (2017) A randomized controlled trial and cost-effectiveness analysis of early cannulation arteriovenous grafts versus tunneled central venous catheters in patients requiring urgent vascular access for hemodialysis. *Journal of Vascular Surgery*. 65(3), p.766-774.

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