



To assess the ability of various clinical factors to predict infection or dysfunction of tunneled hemodialysis catheters” Coker et al (2018).

Abstract:

PURPOSE: To assess the ability of various clinical factors to predict infection or dysfunction of tunneled hemodialysis catheters.

METHODS: A retrospective review of all adult patients who had a tunneled hemodialysis catheter placed between 2012 and 2016 was performed. Tunneled hemodialysis catheters were considered infected based on clinical suspicion or culture-positive bacteremia. Dysfunction was defined as all other non-infectious causes for line failure. Time-to-removal or exchange was recorded. Clinical parameters analyzed as potential predictors of tunneled hemodialysis catheter infection or dysfunction, included the following: age, sex, site of placement, inpatient versus outpatient status at time of placement, body mass index, Charlson Comorbidity Index, neutrophil-to-lymphocyte ratio, platelet-to-lymphocyte ratio, platelet count, white blood cell count, international normalized ratio, and partial thromboplastin time.

RESULTS: A total of 177 patients (95: female, 82: male; 71.7%: African American; mean age: 54.9 years) qualified for inclusion. The internal jugular vein was the site of placement in 97.1% of patients with 79.7% of lines being placed on the right side. One patient (0.5%) had minor bleeding after catheter insertion but no other complications were recorded. A total of

17 patients (9.6%) had lines removed or exchanged due to infection at a median of 86 (range: 13-626) days, while 68 patients (38.4%) had lines removed or exchanged due to dysfunction at a median of 42 (range: 1-531) days. A total of 92 patients (51.9%) had lines removed due to completion of therapy at a median of 68 (range: 7-433) days. Dysfunctional lines had a shorter time-to-removal than successful lines ($p = 0.007$). No difference was seen in time-to-removal between infected lines and successful lines ($p = 0.16$). Multivariate analysis showed that female sex ($p = 0.003$) and left-sided line placement ($p = 0.007$) were independent predictors of line dysfunction. No evaluated factors were predictive of tunneled hemodialysis catheter infection.

CONCLUSION: Female sex and left-sided line placement were independent predictors of tunneled hemodialysis catheter dysfunction, but none of the evaluated parameters predicted tunneled hemodialysis catheter infection.

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Reference:

Coker, M.A., Black, J.R., Li, Y., Varma, R., Almeahmi, A., Abdel Aal, A.K. and Gunn, A.J. (2018) An analysis of potential predictors of tunneled hemodialysis catheter infection or dysfunction. The Journal of Vascular Access. November 13th. .

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