

Patients receiving emergency-only hemodialysis via tunneled catheters have a high CRBSI rate compared to infection rates previously reported in patients receiving scheduled maintenance hemodialysis. Increased CRBSI risk likely contributes to the increased morbidity and mortality seen in ESRD patients receiving emergency-only hemodialysis” Zhang et al (2018).

Abstract:

BACKGROUND: An estimated 6500 undocumented immigrants with end-stage renal disease (ESRD) live in the United States. Those living in states that do not provide undocumented immigrants scheduled hemodialysis receive intermittent hemodialysis only when life-threatening conditions arise. Little is known about catheter-related bloodstream infections (CRBSIs) in this population.

METHODS: We conducted a retrospective cohort study of emergency-only hemodialysis patients in the Harris Health System in Houston, Texas between January 2012 and December 2015. We assessed CRBSI risk factors including demographics, comorbidities, and duration and frequency of hemodialysis. We investigated the microbiologic etiology of these infections, rates of recurrent CRBSI, and associated morbidity and mortality.

RESULTS: The cohort included 329 patients; 90% were Hispanic, 60% had diabetes, and the average age was 51 years. A total 101 CRBSIs occurred, with a rate of 0.84 infections per 1000 catheter days. Cirrhosis and duration of hemodialysis during the study period were associated with increased risk of CRBSI. Seventeen CRBSIs were recurrent; infection with gram-positive bacteria predicted recurrence. Adherence to catheter-related infection guidelines was improved by Infectious Diseases consultation and associated with fewer recurrent infections. CRBSI was associated with prolonged hospitalization (mean 15 days), composite complication rate of 8%, and a 4% mortality rate.

CONCLUSIONS: Patients receiving emergency-only hemodialysis via tunneled catheters have a high CRBSI rate compared to infection rates previously reported in patients receiving scheduled maintenance hemodialysis. Increased CRBSI risk likely contributes to the increased morbidity and mortality seen in ESRD patients receiving emergency-only



hemodialysis.

Reference:

Zhang, H.H., Cortés-Penfield, N.W., Mandayam, S., Niu, J., Atmar, R.L., Wu, E., Chen, D., Zamani, R. and Shah, M.K. (2018) Dialysis Catheter-Related Bloodstream Infections in Patients Receiving Hemodialysis on an Emergency-Only Basis: A Retrospective Cohort Analysis. *Clinical Infectious Diseases*. July 9th. .

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