Bloodstream infections (BSI) are a major complication of hemodialysis. The risk of infection among hemodialysis patients is usually associated with the dialysis procedure itself, specifically the means of vascular access" Alhazmi et al (2019).

Abstract:

BACKGROUND: Bloodstream infections (BSI) are a major complication of hemodialysis. The risk of infection among hemodialysis patients is usually associated with the dialysis procedure itself, specifically the means of vascular access.

OBJECTIVES: Estimate the rate of BSI and assess factors possibly associated with BSI.

DESIGN: Analytical retrospective medical record review.

SETTING: Hemodialysis unit in a tertiary care center.

PATIENTS AND METHODS: Adult patients (18-60 years old) who had hemodialysis as first renal replacement therapy in the 20-month period from January 2014 to August 2016 were included in this study. Demographic and clinical characteristics were used in a multivariate logistic regression to assess factors that might be associated with BSI.

MAIN OUTCOME MEASURES: The rate of BSI and associated factors among chronic

hemodialysis outpatients.

SAMPLE SIZE AND CHARACTERISTICS: 160 outpatients on hemodialysis, median (IQR) age 47.7 (37.0-56.0) years, males (60.6%).

RESULTS: The rate of BSI was 0.4 per 100 patient-months. Multivariate logistic regression revealed that patients who had central venous catheters had the highest risk for BSI (odds ratio: 10.088; 95% CI= 2.595-39.215; P=.001) compared with arteriovenous fistulas. Gram-negative bacteria were isolated in 54.6% of cases, with coagulase-negative Staphylococcus the most frequent isolate (18.2%), followed by Klebsiella pneumoniae and Enterobacteriaceae (15.2%, each).

CONCLUSIONS: The type of vascular access type is the main risk factor associated with BSI in hemodialysis patients. The arteriovenous fistula, which has a lower infection rate compared to the catheter, is the best available option for hemodialysis patients.

LIMITATIONS: Retrospective, single center and relatively small sample size.

CONFLICT OF INTEREST: None.

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Reference:
Alhazmi, S.M., Noor, S.O., Alshamrani, M.M. and Farahat, F.M. (2019) Bloodstream infection at hemodialysis facilities in Jeddah: a medical record review. Annals of Saudi Medicine. 39(4), p.258-264. doi: 10.5144/0256-4947.2019.258.