To evaluate the prevalence and predictors of peripherally inserted central catheter-associated bloodstream infection (PBSI) and PBSI-related death in hospitalized adult patients” Lee et al (2019).

Abstract:

OBJECTIVE: To evaluate the prevalence and predictors of peripherally inserted central catheter-associated bloodstream infection (PBSI) and PBSI-related death in hospitalized adult patients.

MATERIALS AND METHODS: A retrospective multicenter cohort of consecutive patients who underwent PICC placement from October 2016 to September 2017 at four institutes was assembled. Using multivariable logistic and Cox-proportional hazards regression models, all risk factors were analyzed for their association with PBSI. Multivariable logistic models were used to evaluate predictors of PBSI-related death.

RESULTS: During the study period, a total of 929 PICCs were inserted in 746 patients for a total of 17,913 catheter days. PBSI occurred in 58 patients (6.2%), with an infection rate of 3.23 per 1,000 catheter days. Number of catheter lumens, PICC for chemotherapy (OR 4.94; 95% CI, 1.686-14.458; HR 7.635; 95% CI, 2.775-21.007), and hospital length of stay (OR 2.23; 95% CI, 1.234-4.049; HR 1.249; 95% CI, 0.659-2.368) were associated with PBSI. Risk factors, such as receiving chemotherapy (OR 54.911; 95% CI, 2.755-1094.326), presence of diabetes (OR 11.712; 95% CI, 1.513-90.665), and advanced age (OR 1.116; 95% CI 1.007-1.238), were
correlated with PBSI-related death.

CONCLUSION: Our results indicated that risk factors associated with PBSI included the number of catheter lumens, the use of PICCs for chemotherapy, and the hospital length of stay. Furthermore, PBSI-related death was common in patients undergoing chemotherapy, diabetics, and elderly patients.

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