

"To compare early totally implantable central venous port catheter-related infection rates after inpatient vs outpatient placement and to determine whether the risk associated with inpatient placement is influenced by length of hospital stay" Tang et al (2020).



Abstract:

PURPOSE: To compare early totally implantable central venous port catheter-related infection rates after inpatient vs outpatient placement and to determine whether the risk associated with inpatient placement is influenced by length of hospital stay. **MATERIALS AND METHODS:** In this single-institution retrospective study, 5,301 patients (3,618 women; mean age 57 y) underwent port placement by interventional radiologists between October 2004 and January 2018. The 30-day infection rate was compared between inpatients and outpatients using survival analysis. Among inpatients, the effect of time from admission to port placement and from placement to discharge was analyzed using a survival regression tree. **RESULTS:** The 30-day infection rate was 3.6% (95% confidence interval = 1.9%-6.1%) among 386 inpatients and 1.0% (95% CI = 0.7%-1.3%) among 4,915 outpatients (hazard ratio = 3.6, 95% CI = 2.0-6.6, $P < .001$). Inpatient placement was a significant risk factor after accounting for covariates in multivariate analysis (HR = 2.2, 95% CI = 1.0-4.7, $P = .05$) and controlling for demographic differences by propensity score matching (HR = 2.8, 95% CI = 1.0-7.8, $P = .04$). Infection rate was 11% (95% CI = 4.7%-22%) among 65 inpatients in whom time from admission to placement was ≥ 7 days, 5.1% (95% CI = 1.9%-11%) among 129 inpatients in whom admission to placement was < 7 days and time to discharge was > 3 days, and 0% (95% CI = 0%-2.1%) among 192 inpatients in whom admission to placement was < 7 days

and time to discharge was ≤ 3 days ($P < .001$). CONCLUSIONS: Inpatient port placement was associated with a higher risk of early infection. However, a clinical decision tree based on shorter length of stay before and after placement may identify a subset of hospitalized patients not at increased risk for infection.

Reference:

Tang, L., Kim, C.Y., Martin, J.G., Pabon-Ramos, W.M., Sag, A.A., Suhocki, P.V., Smith, T.P. and Ronald, J. (2020) Length of Stay Predicts Risk of Early Infection for Hospitalized Patients Undergoing Central Venous Port Placement. *Journal of Vascular and Interventional Radiology*. January 29th. doi: 10.1016/j.jvir.2019.10.017. .

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