We compare the use and survivorship rate of peripheral intravenous catheters placed in the emergency department (ED) by insertion method” Shokoohi et al (2019).

Abstract:

STUDY OBJECTIVE: We compare the use and survivorship rate of peripheral intravenous catheters placed in the emergency department (ED) by insertion method.

METHODS: We analyzed a prospective cohort of ED patients who received a peripheral intravenous catheter in the ED by ultrasonographically guided or landmark insertion. Research assistants recorded the uses of the ED-inserted catheters during the ED visit and hospitalization. Among subjects admitted, research assistants tracked catheter survivorship for 72 hours or hospital discharge, whichever came first. Research assistants documented reason for catheter removal and whether it was replaced during hospitalization. Premature removal was defined as catheters that were replaced because of mechanical failure, complication, or discomfort. We used multivariate binomial regression to estimate the relative risk of insertion method on premature removal and a Kaplan-Meier curve to compare survivorship duration by insertion method.

RESULTS: A cohort of 1,174 patients with a mean age of 45 years and 63% female predominance was analyzed. Catheter use was 73% and 78% in the ED and hospital for the administration of fluids, medications, or contrast agents (and 96% if blood drawn for testing was included). Peripheral intravenous use did not differ significantly in the ED or hospital by insertion method. For 330 patients who were admitted, 132 of 182 patients (73%) in the ultrasonographically guided group and 117 of 148 (79%) in the landmark group had 72-hour catheter survival. Premature removal was not significantly more likely to occur if the catheter was inserted by the ultrasonographically guided method compared with the landmark one (relative risk 1.26; 95% confidence interval 0.88 to 1.80).

CONCLUSION: ED-inserted peripheral intravenous catheters were frequently used in the ED and hospital. Peripheral intravenous use and hospital survivorship of ED-inserted peripheral intravenous catheters were similar by insertion method.
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