



To evaluate the impact of subcutaneous tunneling on peripherally inserted central catheter (PICC) placement in terms of central line-associated bloodstream infections (CLABSIs)” Kim et al (2018).

Abstract:

OBJECTIVE: To evaluate the impact of subcutaneous tunneling on peripherally inserted central catheter (PICC) placement in terms of central line-associated bloodstream infections (CLABSIs).

METHODS: Our dual-facility central institutional review board approved this retrospective study. We compared 302 of 327 consecutive recipients (mean age [\pm SD], 68.0 ± 15.9 years; men, 134; women, 168) of tunneled PICCs (October 2017 to May 2018) with 309 of 328 consecutive recipients (mean age, 68.7 ± 14.6 years; men, 142; women, 167) of conventional PICCs (April 2016 to September 2017). Tunnels were made near puncture sites (~ 1 in. away) using hemostats or puncture needles. In each group, procedure times and rates of complications, including CLABSI, entry-site infection, dislocation, thrombophlebitis, and occlusion, were examined. Risk factors for CLABSI were analyzed via logistic and Cox regression models.

RESULTS: Subcutaneous tunnels were achieved in all patients, enabling successful peripheral vein cannulations. Group procedure times were similar ($p = 0.414$). CLABSI proved to be significantly less frequent after tunneling (8/6972 catheter-days) than after conventional

(28/7574 catheter-days) PICC placement (adjusted hazard ratio = 0.328; 95% confidence interval, 0.149-0.721). Other risk factors (i.e., age, gender, comorbidity, PICC duration, veins, hospital stay, and intensive care unit stay) showed no significant correlations with CLABSI.

CONCLUSIONS: Compared with conventional means, a subcutaneous tunneling approach for PICC placement significantly reduces the rate of CLABSI.

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Reference:

Kim, I.J., Shim, D.J., Lee, J.H., Kim, E.T., Byeon, J.H., Lee, H.J. and Cho, S.G. (2018) Impact of subcutaneous tunnels on peripherally inserted catheter placement: a multicenter retrospective study. *European Radiology*. December 17th. .

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