

Our study was to identify the prevalence, patterns, and risk factors of catheter-related infections associated with PICCs” Gao et al (2015).

Reference:

Gao, Y., Liu, Y., Ma, X., Wei, L., Chen, W. and Song, L. (2015). The incidence and risk factors of peripherally inserted central catheter-related infection among cancer patients. *Therapeutics and Clinical Risk Management*. 11, p.863-71.

Incidence and risk factors of peripherally inserted central catheter-related infection  
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Abstract:

**BACKGROUND:** As the use of peripherally inserted central catheters (PICCs) increased in chemotherapy, the identification of complications and risk factors became essential to prevent patient harm. But little is known about PICC-related infection and risk factors among patients with cancer. Our study was to identify the prevalence, patterns, and risk factors of catheter-related infections associated with PICCs.

**METHODS:** A 3-year prospective cohort study was conducted in a university-affiliated hospital. All patients with cancer who met inclusion criteria were enrolled. The patients were followed up until catheter removal. Tip cultures were routinely performed at the time of catheter removal. The general information was recorded at the time of PICC insertion, weekly care, and removal. Univariable and multivariable logistic regression analyses were applied for identification of risk factors.

**RESULTS:** In total, 912 cancer patients with 912 PICCs of 96,307 catheter days were enrolled. Ninety-four developed PICC-related infection; 46 were exit-site infection, 43 were catheter bacterial colonization, and five were PICC-related bloodstream infection. The median time from catheter insertion to infection was 98.26 days. Multivariate analysis showed StatLock fixing (odds ratio =0.555, 95% confidence interval : 0.326-0.945) and tip position located in the lower one-third of the superior vena cava (OR =0.340, 95% CI: 0.202-0.571) were associated with lower PICC infection rate. Catheter care delay (OR =2.612, 95% CI: 1.373-4.969) and indwelling mostly in summer (OR =4.784, 95% CI: 2.681-8.538) were associated with higher infection incidence.



CONCLUSION: StatLock fixing and tip position located in the lower one-third of the superior vena cava were protective factors against PICC-related infection, while catheter care delay and indwelling mostly in summer were risk factors. Policy and measures targeting these factors may be necessary to reduce the risk of infection.

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