To evaluate the influence of the combination of venous access site and level of training on FTs and DAPs during peripherally inserted central catheters (PICC) implantations in a large cohort of patients” Jonczyk et al (2017).

Abstract:

Background: Several interventional procedures show a dependency on fluoroscopy times (FT) and level of training. Furthermore, FT and dose area products (DAP) vary depending on access site and target vessel for chest port implantations, but not for other thoracic interventions such as percutaneous coronary interventions.

Purpose: To evaluate the influence of the combination of venous access site and level of training on FTs and DAPs during peripherally inserted central catheters (PICC) implantations in a large cohort of patients.

Material and Methods: In this retrospective study, PICC implantations of 681 consecutive patients (385 women, 296 men; mean age = 55.0 ± 16.7 years) were analyzed. Two groups of junior (< 50 interventions) and senior (≥ 50 implantations) radiologists were investigated in respect to FT and DAP during PICC placement procedures. Statistical analysis included the Mann-Whitney U test and the Kruskal-Wallis test. P values < 0.05 were considered significant.

Results: Senior radiologists required significantly less FT (senior = 0.43 s, junior = 0.53 s, P = 0.041), but there was no significant difference in DAPs (senior = 56.3 μGy*m2, junior = 60.6 μGy*m2, P = 0.151). PICC implantations through the left side resulted in a significant reduction of the median FT by 60.9% (left = 0.45 s, right = 1.15 s, P = 0.010).

Conclusion: Due to considerable dose reduction, the left-sided puncture, especially via the basilic and brachial veins, performed by well-trained interventional radiologists seem to be the preferable approach for PICCs.
Reference:


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