To assess the feasibility and accuracy of point-of-care ultrasound (POCUS) in monitoring peripherally inserted central catheter (PICC) location in neonates by non-radiologist physicians” Motz et al (2019).

Abstract:

Objective: To assess the feasibility and accuracy of point-of-care ultrasound (POCUS) in monitoring peripherally inserted central catheter (PICC) location in neonates by non-radiologist physicians.

Methods: A prospective cohort study compared PICC localization by ultrasound in neonates with a recent radiograph. The ultrasound exam was performed using a standardized protocol with 13-6 MHz linear and 8-4 MHz phased array transducers by a neonatal-perinatal fellow who was blinded to PICC location on the radiograph.

Results: Of the 30 neonates included, 96.6% (n = 29) were preterm, with 63.3% (n = 19) weighing <1500 g. Nighty-four percent (n = 94) of ultrasound scans matched the radiograph report. The protocol had a sensitivity of 0.97, specificity of 0.66 and positive predictive value of 0.98. Conclusion: Limited ultrasound exams to monitor PICC position in neonates using a standardized protocol by non-radiologist physicians are feasible and accurate in a single ultrasound user. Further study in multiple providers is needed before widespread use.
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