Abstract:

Objective: Peripherally inserted central catheters are a popular means of obtaining central venous access in critically ill patients. However, there is limited data regarding the rapidity of the peripherally inserted central catheter procedure in the presence of acute illness or obesity, both of which may impede central venous catheter placement. We aimed to determine the feasibility, safety, and duration of peripherally inserted central catheter placement in critically ill patients, including obese patients and patients in shock.

Methods: This retrospective cohort study was performed using data on 55 peripherally inserted central catheters placed in a 30-bed multidisciplinary intensive care unit in Mayo Clinic Hospital, Phoenix, Arizona. Information on the time required to complete each step of the peripherally inserted central catheter procedure, associated complications, and patient characteristics was obtained from a prospectively assembled internal quality assurance database created through random convenience sampling.

Results: The Median Procedure Time, beginning with the first needle puncture and ending when the procedure is complete, was 14 (interquartile range: 9-20) min. Neither critical illness nor obesity resulted in a statistically significant increase in the time required to complete the peripherally inserted central catheter procedure. Three (5.5%) minor complications were observed.

Conclusion: Critical illness and obesity do not delay the acquisition of vascular access when placing a peripherally inserted central catheter. Concerns of delayed vascular access in critically ill patients should not deter a physician from selecting a peripherally inserted central catheter to provide vascular access when it would otherwise be appropriate.

Reference: