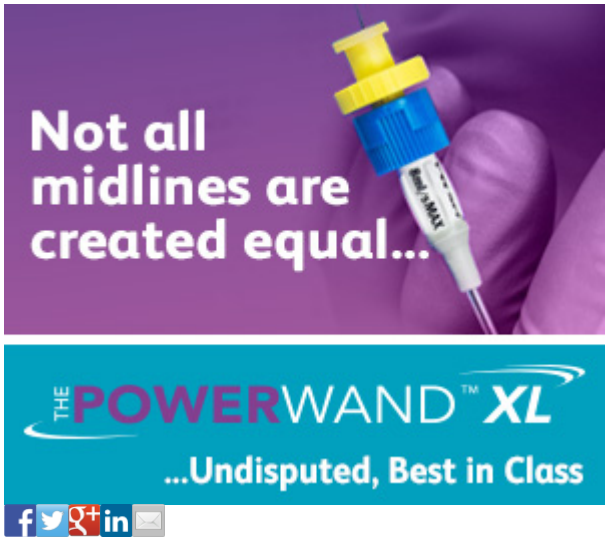

We evaluated the safety and feasibility of ultrasound-guided peripherally-inserted central venous catheters (PICC) by a neurointensivist at the bedside compared to fluoroscopy-guided PICC and conventional central venous catheter (CCVC)" Kim et al (2019).

Abstract:

We evaluated the safety and feasibility of ultrasound-guided peripherally-inserted central venous catheters (PICC) by a neurointensivist at the bedside compared to fluoroscopy-guided PICC and conventional central venous catheter (CCVC). This was a retrospective study of adult patients who underwent central line placement and were admitted to the neurosurgical intensive care unit (ICU) between January 2014 and March 2018. In this study, the primary endpoint was central line-induced complications. The secondary endpoint was initial success of central line placement. Placements of ultrasound-guided PICC and CCVC performed at the bedside if intra-hospital transport was inappropriate. Other patients underwent PICC placement at the interventional radiology suite under fluoroscopic guidance. A total of 191 patients underwent central line placement in the neurosurgery ICU during the study period. Requirement for central line infusion (56.0%) and difficult venous access (28.8%) were the most common reasons for central line placement. The basilic vein (39.3%) and the subclavian vein (35.1%) were the most common target veins among patients who underwent central line placement. The placements of ultrasound-guided PICC and CCVC at the bedside were more

frequently performed in patients on mechanical ventilation (p = 0.001) and with hemodynamic instability (p <0.001) compared to the fluoroscopy-guided PICC placement. The initial success rate of central line placement was better in the fluoroscopy-guided PICC placement than in the placements of ultrasound-guided PICC and CCVC at the bedside (p = 0.004). However, all re-inserted central lines were successful. There was no significant difference in procedure time between the three groups. However, incidence of insertional injuries was higher in CCVC group compared to PICC groups (p = 0.038). Ultrasound-guided PICC placement by a neurointensivist may be safe and feasible compared to fluoroscopy-guided PICC placement by interventional radiologists and CCVC placement for neurocritically ill patients.

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Kim, Y.O., Chung, C.R., Gil, E., Park, C.M., Suh, G.Y. and Ryu, J.A. (2019) Safety and feasibility of ultrasound-guided placement of peripherally inserted central catheter performed by neurointensivist in neurosurgery intensive care unit. PLoS One. 14(5), p.e0217641. doi: 10.1371/journal.pone.0217641. eCollection 2019.