

Abstract:

Background: Peripherally inserted central catheter (PICC) use among critically ill patients with or without acute kidney injury (AKI) has gradually increased. Ultrasound-guided bedside PICC insertion in intensive care units (ICU) has been reported to be safe and effective. Reports of PICC insertion by a nephrologist without fluoroscopy, however, are relatively rare.

Methods: This retrospective study included patients (n = 224) who had a PICC inserted by a single nephrologist at Samsung Changwon Hospital from January 2019 to June 2020. Group 1 patients (n = 98) had PICCs inserted under ultrasound guidance, while group 2 patients (n = 126) had PICCs inserted under fluoroscopic guidance. Success rates, multiple puncture rates, and malposition rates were compared between the two groups.

Results: Underlying comorbidities (sepsis, AKI, ventilator use, and shock) were more common in group 1 than in group 2. Success rates were comparable between the two groups (93.9% vs. 97.6%, P = 0.171). Multiple puncture rate among successful cases (4.1% vs. 0.0%, P = 0.035) was higher in group 1 than group 2. Excluding central vein occlusion cases, malposition occurred only one in group 1.

Conclusion: Bedside PICC insertion by a nephrologist is easy and safe to perform in comorbid patients who are difficult to move to the angiography room. The success rate of ultrasound-guided PICC insertions was comparable to that of PICC insertion performed under fluoroscopic guidance. In the life-threatening ICU setting, PICCs can be successfully placed by the interventional nephrologists.

Reference:

Cho S. Peripherally inserted central catheter procedure at the bedside by a nephrologist is safe and successful. *Kidney Res Clin Pract.* 2021 Mar;40(1):153-161. doi: 10.23876/j.krcp.20.119. Epub 2021 Mar 24. PMID: 33789388.

[Full Text](#)