



In this sample of hospitalized patients who received PICCs, placement in those with CKD was common and not concordant with clinical guidelines” Paje et al 92019).

Abstract:

**BACKGROUND:** Existing guidelines, including Choosing Wisely recommendations, endorse avoiding placement of peripherally inserted central catheters (PICCs) in patients with chronic kidney disease (CKD).

**OBJECTIVE:** To describe the frequency of and characteristics associated with PICC use in hospitalized patients with stage 3b or greater CKD (glomerular filtration rate <45 mL/min/1.73 m<sup>2</sup>). **DESIGN:** Prospective cohort study. **SETTING:** 52 hospitals participating in the Michigan Hospital Medicine Safety Consortium. **PARTICIPANTS:** Hospitalized medical patients who received a PICC between November 2013 and September 2016.

**MEASUREMENTS:** Percentage of patients receiving PICCs who had CKD, frequency of PICC-related complications, and variation in the proportion of PICCs placed in patients with CKD.

**RESULTS:** Of 20 545 patients who had PICCs placed, 4743 (23.1% [95% CI, 20.9% to 25.3%]) had an estimated GFR (eGFR) less than 45 mL/min/1.73 m<sup>2</sup> and 699 (3.4%) were receiving hemodialysis. In the intensive care unit (ICU), 30.9% (CI, 29.7% to 32.2%) of patients receiving PICCs had an eGFR less than 45 mL/min/1.73 m<sup>2</sup>; the corresponding percentage in wards was 19.3% (CI, 18.8% to 19.9%). Among patients with an eGFR less than 45 mL/min/1.73 m<sup>2</sup>, multilumen PICCs were placed more frequently than single-lumen PICCs. In

wards, PICC-related complications occurred in 15.3% of patients with an eGFR less than 45 mL/min/1.73 m<sup>2</sup> and in 15.2% of those with an eGFR of 45 mL/min/1.73 m<sup>2</sup> or higher. The corresponding percentages in ICU settings were 22.4% and 23.9%. In patients with an eGFR less than 45 mL/min/1.73 m<sup>2</sup>, PICC placement varied widely across hospitals (interquartile range, 23.7% to 37.8% in ICUs and 12.8% to 23.7% in wards). LIMITATION: Nephrologist approval for placement could not be determined, and 2.7% of eGFR values were unknown and excluded. CONCLUSION: In this sample of hospitalized patients who received PICCs, placement in those with CKD was common and not concordant with clinical guidelines. PRIMARY FUNDING SOURCE: Blue Cross Blue Shield of Michigan and Blue Care Network.

## You may also be interested in...

Central venous occlusive disease in patients with end-stage renal disease

Smart phone app developed for PICC patients

Informed consent process for PICC patients

### Reference:

Paje, D., Rogers, M.A.M., Conlon, A., Flanders, S.A., Bernstein, S.J. and Chopra, V. (2019) Use of Peripherally Inserted Central Catheters in Patients With Advanced Chronic Kidney Disease: A Prospective Cohort Study. *Annals of Internal Medicine*. June 4th. doi: 10.7326/M18-2937. .

