



#IVTEAM #Intravenous literature: Itkin, M., Mondshein, J.I., Stavropoulos, W.S., Shlanski-Goldberg, R.D., Soulen, M.A. and Trerotola, S.O. (2013) Peripherally Inserted Central Catheter Thrombosis-Reverse Tapered versus Nontapered Catheters: A Randomized Controlled Study. Journal of Vascular and Interventional Radiology. 2November 20th. .

#### Abstract:

**PURPOSE:** To compare the thrombosis rate, ease of insertion, bleeding rate, and complications of a nontapered peripherally inserted central catheter (PICC) versus a reverse tapered PICC.

**METHODS:** This was a prospective randomized, controlled trial conducted in single center. All patients 18-90 years old requiring PICC insertion were considered for the study. All patients were followed until PICC removal. Ultrasound examination of the arm was performed at PICC removal or at 28 days. There were 332 patients randomly assigned-164 to the nontapered PICC group and 168 to the reverse tapered PICC group.

**RESULTS:** The overall thrombosis rate was 71.9%. The thrombosis rate was 70.4% in the nontapered PICC group and 73.4% in the reverse tapered PICC group ( $P = .58$ ). The symptomatic thrombosis rate was 4.3% in the nontapered PICC group and 3.6% in the reverse tapered PICC group ( $P = .75$ ). The complete thrombosis rate was 15.6% in the nontapered PICC group compared with 20.8% in the reverse tapered PICC group ( $P = .44$ ). There was a statistically significantly higher thrombosis rate in patients with cancer (71.9%

vs 66.7%,  $P = .002$ ).

**CONCLUSIONS:** This study showed a high incidence of thrombosis of peripheral veins used for PICC insertion. The implication of this thrombosis is significant in light of the morbidity and potential mortality associated with this condition. A difference in thrombosis rate between devices could not be detected in this study.

