

We undertook a systematic review and meta-analysis with the aim to investigate whether the difference between PICC- and CICC-measured CVP is not significant” Sanfilippo et al (2017).

Abstract:

INTRODUCTION: The central venous pressure (CVP) is the most commonly used static marker of preload for guiding fluid therapy in critically ill patients, though its usefulness remains controversial. Centrally inserted central catheters (CICCs) are the gold-standard devices for CVP monitoring but peripherally inserted central catheters (PICCs) may represent a valid alternative. We undertook a systematic review and meta-analysis with the aim to investigate whether the difference between PICC- and CICC-measured CVP is not significant.

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METHODS: We searched for clinical studies published in PubMed and EMBASE databases from inception until December 21st 2016. We included studies providing data on paired and simultaneous CVP measurement from PICCs and CICCs. We conducted two analyses on the values of CVP, the first one according to the total number of CVP assessments, the second one considering the number of patients recruited.

RESULTS: Four studies matched the inclusion criteria, but only three of them provided data for the meta-analyses. Both analyses showed non-significant differences between PICC-measured and CICC-measured CVP: 1489 paired simultaneous CVP assessments (MD 0.16, 95%CI -0.14, 0.45, $p = 0.30$) on a total of 57 patients (MD 0.22, 95%CI -1.46, 1.91, $p = 0.80$). Both analyses showed no heterogeneity ($I^2 = 0\%$).

CONCLUSIONS: Available evidence supports that CVP monitoring with PICCs is accurate and reproduces similar values to those obtained from CICCs. The possibility to monitor CVP should not be used among clinical criteria for preferring a CICC over a PICC line.

Reference:

Sanfilippo, F., Noto, A., Martucci, G., Farbo, M., Burgio, G. and Biasucci, D.G. (2017) Central venous pressure monitoring via peripherally or centrally inserted central catheters: a systematic review and meta-analysis. The Journal of Vascular Access. June 23rd. .

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