



To assess whether the initiation of vasopressor infusions via peripheral venous catheters (PVC) compared to central venous catheters (CVC) in ED patients with early septic shock was associated with differences in processes of care and outcomes” Delaney et al (2019).

Abstract:

**OBJECTIVE:** To assess whether the initiation of vasopressor infusions via peripheral venous catheters (PVC) compared to central venous catheters (CVC) in ED patients with early septic shock was associated with differences in processes of care and outcomes.

**METHODS:** We conducted a post-hoc analysis of the ARISE trial. We compared participants who had a vasopressor infusion first commenced via a PVC versus a CVC. The primary outcome was 90 day mortality.

**RESULTS:** We studied 937 participants. Of these, 389 (42%) had early vasopressor infusion commenced via a PVC and 548 (58%) via a CVC. Trial participants who received a vasopressor infusion via a PVC were more severely ill, with higher median (interquartile range ) Acute Physiology And Chronic Health Evaluation (APACHE II) scores (17 [13-23] versus 16 [12-21],  $P = 0.003$ ), and higher median (IQR) lactate (mmol/L) (3.6 [1.9-5.8] versus 2.5 [1.5-4.5],  $P < 0.001$ ). After adjusting for baseline covariates, the estimated odds ratio for

mortality for PVC-treated patients was 1.26 (95% confidence interval 0.95-1.67,  $P = 0.11$ ). Trial participants who had vasopressors commenced via PVC had a shorter median (IQR) time to commencement of antimicrobials (55 [32-96] versus 71.5 [39-119] min,  $P < 0.001$ ) and a shorter median (IQR) time to commencement of vasopressors (2.4 [1.3-3.9] versus 4.9 [3.5-6.6] h,  $P < 0.001$ ). CONCLUSION: The practice of commencing a vasopressor infusion via a PVC was common in the ARISE trial and more frequent in trial participants with higher severity of illness. Commencement of a vasopressor infusion via a PVC was associated with some improvements in processes of care and, after adjustment, was not associated with an increased risk of death.

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### Reference:

Delaney, A., Finnis, M., Bellomo, R., Udy, A., Jones, D., Keijzers, G., MacDonald, S. and Peake, S. (2019) Initiation of vasopressor infusions via peripheral versus central access in patients with early septic shock: A retrospective cohort study. *Emergency Medicine Australasia*. October 9th. doi: 10.1111/1742-6723.13394. .

