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Abstract:

OBJECTIVE: The traditional approach for infusing vasopressors is to insert central venous catheters, which is associated with several complications. Phenylephrine is a commonly used vasopressor in the neurologic intensive care unit (neuro ICU), and due to its modest potency, the risk of local tissue injury from extravasation may be overestimated. The purpose of this study was to evaluate the safety of phenylephrine infusion through peripheral intravenous catheter (PIV) in the neuro ICU.

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PATIENTS AND METHODS: Retrospective review of all consecutive adults admitted to the neuro ICU receiving phenylephrine infusion via PIV at a tertiary academic medical center from September 2012 to November 2015.

RESULTS: Two hundred seventy-seven patients with a mean age of 65 years (standard deviation : ± 15) were included in the final analysis. The most common indications for phenylephrine use were hemodynamic augmentation (40%) and postoperative hypotension (32%). The most common location of PIV-infusing phenylephrine was proximal upper extremity (50%). The most common PIV gauge was 20 (41%). The mean maximum dose of phenylephrine was 79 $\mu\text{g}/\text{min}$ (SD: ± 53 , range: 5-200) or 1.04 $\mu\text{g}/\text{kg}/\text{min}$ (SD: ± 0.74 , range: 0.07-3.49) and was continued for a mean duration of 19 hours (SD: ± 18 , range: 1-129). Nine (3%) total episodes of PIV infiltration were noted, none requiring intervention for significant tissue injury or limb ischemia.

CONCLUSION: Infusion of phenylephrine through PIV is safe when used in moderate doses for a short time and can be considered in lieu of placing a central line solely for this purpose.

Reference:

Datar, S., Gutierrez, E., Schertz, A. and Vachharajani, V. (2017) Safety of Phenylephrine Infusion Through Peripheral Intravenous Catheter in the Neurological Intensive Care Unit. *Journal of Intensive Care Medicine*. January 1st. .

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