Emergency Department (ED) implemented a protocol that recommends peripheral norepinephrine (pNE) be administered through an 18 gauge or larger at or above the antecubital fossa or the external jugular vein with a maximum dose of 20 μg/min.” Nguyen et al (2020).

Abstract

OBJECTIVE: Vasopressors are typically administered through central venous catheters (CVC) due to a historical risk of extravasation with peripheral administration. However, CVC insertion is a time-consuming process that may delay vasopressor administration and is associated with complications. The Virginia Commonwealth University Health System (VCUHS) Emergency Department (ED) implemented a protocol that recommends peripheral norepinephrine (pNE) be administered through an 18 gauge or larger at or above the antecubital fossa or the external jugular vein with a maximum dose of 20 μg/min. This study characterizes the use and incidence of extravasation in all adult patients who received pNE initiated in the VCUHS ED.

METHODS: This was an observational, retrospective cohort study in adult patients from March 2016 to March 2019. Of the 331 patients that were screened, 177 met inclusion criteria. Data were analyzed using descriptive statistics.

RESULTS: Patients had a median age of 60 years and 59% were male. The median APACHE II score was 25 with an overall hospital mortality of 27%. A majority of patients received pNE for distributive shock (63%). Approximately 69% received pNE through an antecubital infusion site. The median total pNE duration was 62 min (IQR 32, 142). Eighty-four percent of patients received a central line. Only 2.3% of patients had confirmed extravasation in addition to another 2.3% where extravasation could not be excluded, for a total rate of 4.5%. None had subsequent extremity injury.

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