We aim to assess the frequency of and risk factors for peripheral IV infiltration and extravasation during peripheral IV vasoactive infusions in children admitted to the PICU” Patregnani et al (2017).

Abstract:

OBJECTIVE: Pediatric shock represents a major cause of morbidity and mortality in the United States. Standardization of treatment such as volume resuscitation and vasoactive administration has resulted in improved patient outcomes. Vasoactives have been anecdotally associated with peripheral IV infiltration and extravasation. There is a paucity of evidence in pediatrics to determine the ideal route of vasoactive infusions and what, if any,
risk factors and harm are associated with peripheral IV infiltration and extravasation. We aim to assess the frequency of and risk factors for peripheral IV infiltration and extravasation during peripheral IV vasoactive infusions in children admitted to the PICU.

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DESIGN: A retrospective, cohort study of all children admitted to a PICU from January 2012 to June 2014.

SETTING: Forty-four-bed PICU at Children’s National Health System.

PATIENTS: All children 0-18 years old receiving a vasoactive infusion through a peripheral IV for a minimum of 1 hour.

INTERVENTIONS: None.

MEASUREMENTS AND MAIN RESULTS: The primary outcomes of this study were incidence of peripheral IV infiltration and extravasation and resultant tissue injury. Secondary outcomes were peripheral IV characteristics and vasoactive infusion data. One hundred two patients met inclusion criteria. Sixty-two percent (63/102) were admitted with the diagnosis of septic shock. The most commonly used vasoactive agent was dopamine. The median peak Vasoactive Infusion Score was 10 (6-14). Peripheral IV infiltration and extravasation incidence was 2% (2/102) and neither event resulted in injury requiring medical or surgical intervention.

CONCLUSIONS: Vasoactive infusions through peripheral IV in children admitted to the PICU with shock were observed to have a low incidence of peripheral IV infiltration and extravasation and resultant tissue injury. Short-term delivery of vasoactives via peripheral IV catheter in a highly monitored PICU setting appears to be safe.

Reference:
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