

The Use of Midline Catheters in Place of Central Venous Catheters for Vasopressor Administration to Reduce Central Line-Associated Bloodstream Infection

Jennifer A. Holohan, MSPH, BSN, RN, CIC; Christine Hatola, BSN, RN, CIC; Geraldine Epping, BSN, RN; Allison Sladek, MSN, RN; Elizabeth Hooker, BSN, SCRNP; Jiin Kwon, BSN, RN PCCN, CCRN, AGACNP-BC; Lauren Mordente, RN, MSN, CNRN; Christine Mitchell, MSN, RN, AGACNP-BC

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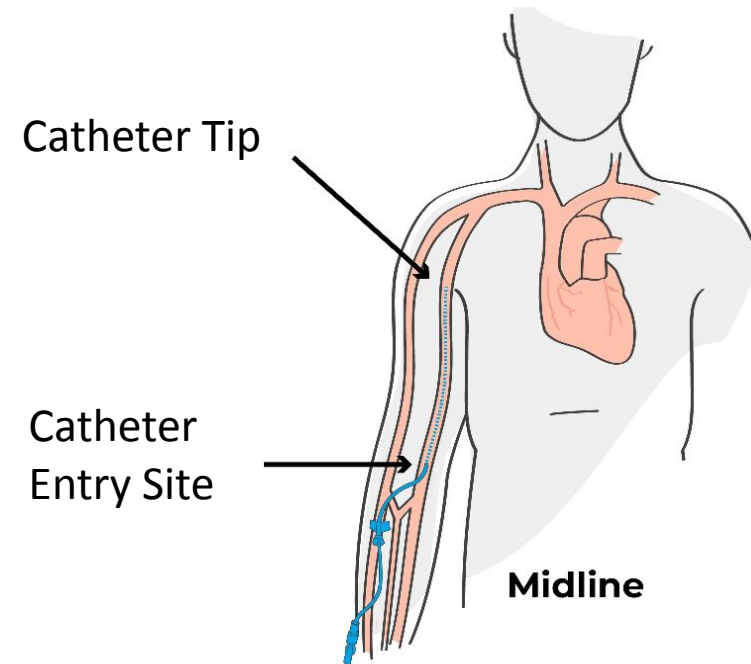
Introduction/Background

- Midline catheters have a lower incidence of bloodstream infections (BSI) compared with central venous catheters (CVC), with a reported BSI rate of between 0% and 0.9%.
- Exclusions for the use of midline catheters have traditionally included the use of vasopressors out of concern for the potential for local tissue injury due to the vasoconstrictive effects of these medications.
- Recent guidelines have allowed for the use of peripheral intravenous catheters for levophed and phenylephrine, and studies have supported midline catheter use as a safe alternative.



Purpose/Objectives

- The purpose of the pilot was to evaluate the use of midline catheters as an alternate route of infusion for peripheral-dose vasopressor medications in an attempt to avoid unnecessary use of central lines and prevent CLABSI.



Methods

- A twenty (20) bed medical intensive care unit and a fourteen (14) bed neuroscience intensive care unit in an acute care teaching hospital located in New York City trialed the use of midline catheters in patients requiring peripheral-dose vasopressors between 7/5/23 - 12/1/23.
 - Norepinephrine 4mg/250 mL, dose up to 15 mcg/min
 - Phenylephrine 20mg/250 mL, no dose limitation
- A total of thirty (30) patients had midline catheters inserted for the purpose of vasopressor administration.



Results

- Norepinephrine was administered in 60% (n=18) of the patients with midlines
- Phenylephrine was administered in 40% (n=12) of the patients with midlines
- 87% (n=26) received vasopressors via midlines for 1-4 days
- 13% (n=4) received vasopressors via midlines for 5-9 days
- Zero (n=0) patients who received vasopressors via midline catheters had complications of extravasation, infiltration or midline related patient injury
- Zero (n=0) central line associated bloodstream infections occurred in patients receiving vasopressors via midline catheters



Discussion/Conclusions



- Results support the use of midline catheters for safe administration of peripheral-dose vasopressors
- Most patients had vasopressor administration via midlines for 1-4 days
- Limitations of this pilot project are the small sample size, a limited number of vasopressors, and a limited range of dosages.
- Further evaluation of effectiveness and cost effectiveness of midline catheter use for vasopressor administration is warranted

References

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Presenter Contact Information

Jennifer A. Holohan, MPH, BSN, RN, CIC, Infection Preventionist

Christine Hatola, BSN, RN, CIC, Infection Preventionist

Department of Infection Prevention and Control

New York-Presbyterian/Weill Cornell Medical Center

525 E 68th St, Starr 516

New York, NY 10022

Main Office Phone: 212-746-1754

Email for Jennifer Holohan: jah9051@nyp.org

Email for Christine Hatola: chh9010@nyp.org

