

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

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## BACKGROUND

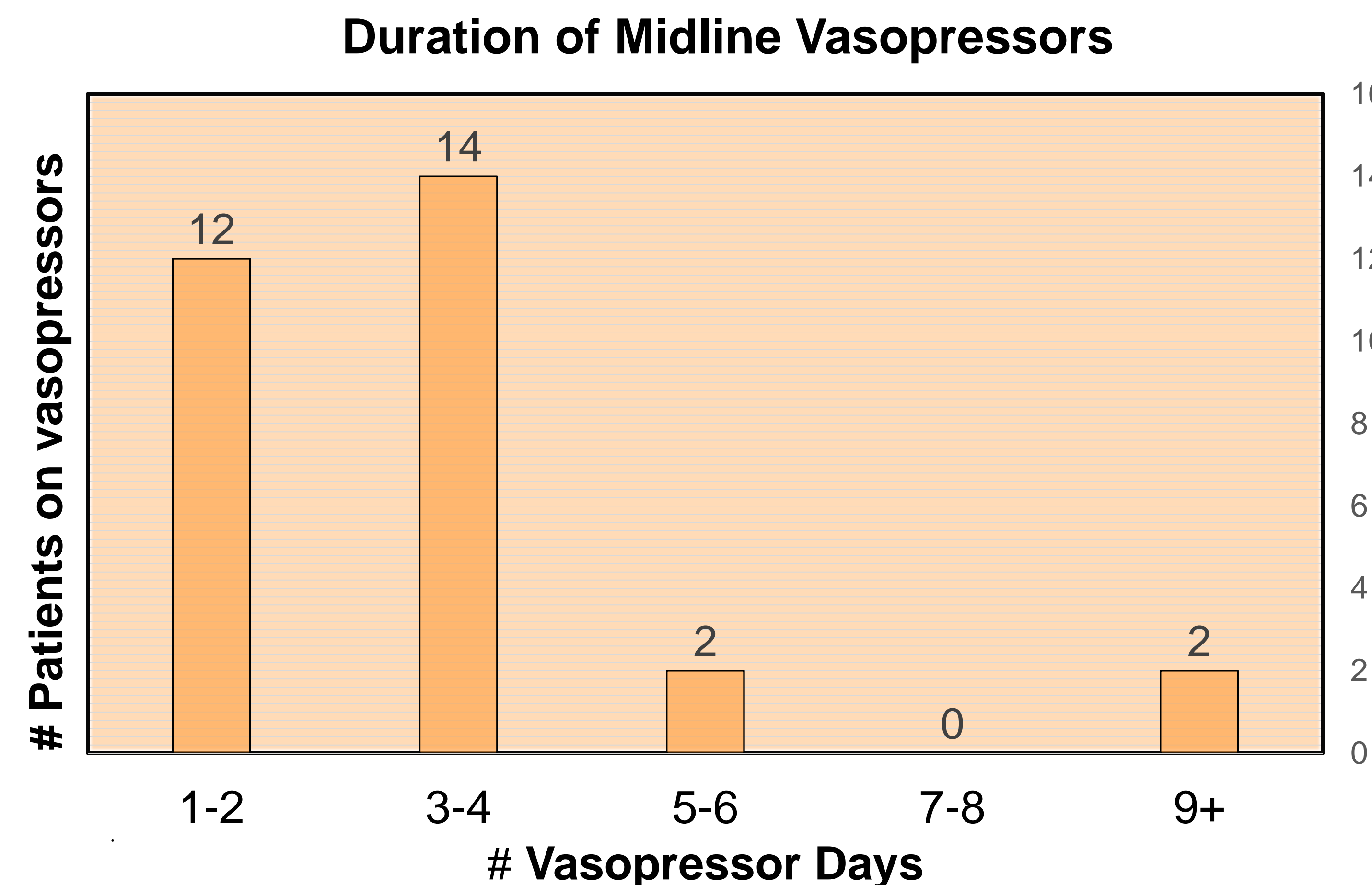
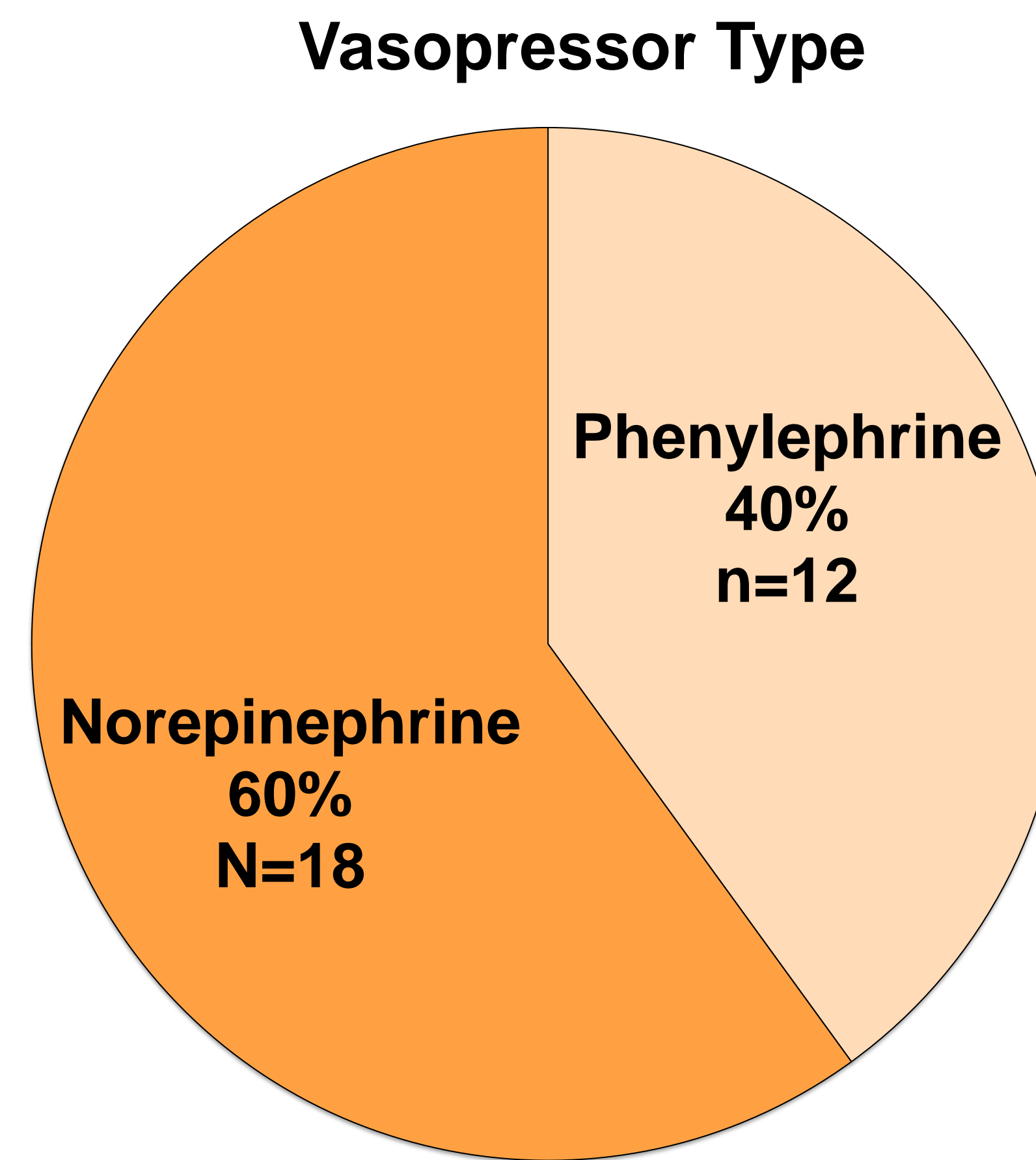
- Midline catheters have a lower incidence of bloodstream infections (BSI) compared with central venous catheters (CVC), with a reported BSI rate of between 0% and 0.9%.
- Exclusions for the use of midline catheters have traditionally included the use of vasopressors out of concern for the potential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

## 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/250mL, 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.



## RESULTS continued

- Zero (n=0) patients who received vasopressors via midline catheters had complications of extravasation, infiltration or midline related patient injury.
- Zero (n=0) bloodstream infections occurred in patients receiving vasopressors via midline catheters.

## CONCLUSIONS/ DISCUSSION

- 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 include the small sample size, limited number of vasopressors and limited dosages.
- Further evaluation of effectiveness and cost effectiveness of midline catheter use for vasopressor administration is warranted.

## REFERENCES

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