POPEVIDENCE: ID# 94470

Title:

The Magic and Misery of Telemetry...at End-of-Life

Mintie Indar-Maraj, EdD, RN, BC, MA
Weiler Campus, Montefiore Health System, Bronx, NY, USA

ACCEPTED

Session Title:

Evidence-Based Practice Poster Session 1 (Saturday/Sunday, 16 & 17 November)

Slot:

EBP PST1: Sunday, 17 November 2019: 11:45 AM-12:15 PM

Abstract Describes:

Completed Work/Project

Applicable Category:

Clinical

Keywords:

End-of-life, Inotropes/vasoactive drugs and telemetry Medical-surgical

References:

Crawford, C. L., and Halm, M. A. (2016). Telemetry monitoring: Are admission criteria based on evidence: *AJCC*, (24) 4.

Overgaard, C. B. and Dzavik, V. (2016). Inotropes & Vasopressors: Review of physiology and clinical use in Cardiovascular Disease. DOI: 10.1161/circulationaha.107.728840.

Larabee, T. M., Liu, Y. K., Campbell, J. A., Little, C. M. (2012). Vasopressors in cardiac arrest: A systematic review. *Resuscitation.* 83. 932-939.

Witson, M. R., Mo, E., Nabi, T., Healy, L., Koenig, S., Narasimhan, M. (2016). Feasibility, utility and safety of Midodrine during recovery phase from septic shock. DOI:10.1016/j.chest.2016.02.657.

Zhou, F., Mao,Z., Zeng, X., Kang, H., Liu, H., Pan, L., Hou, P. C. (2015). Vasopressors in septic shock: A systematic review and network meta-analysis. *Therapeutics and Clinical Risk Management*.11, 1047-1059.

Belletti, A., Musu, M., Silvetti, S., Saleh, O., Pasin, L., Monaco, F., Hajjar., L.A., Fominiskiy, E., Finco, G., Zangrillo, A., Landoni, G. (2015). Non-adrenergic Vasopressors in patients with or at risk vasodilatory shock. A systematic review and meta-analysis of randomized trials. DOI: 10.1371/journal.pone.0142605.

Belletti. A., Castro, M.L. Sivetti, S., Greco, T., Biondi-Zoccai, G., Pasin, L., Zangrillo, A., Landoni, G. (2015). The effect of inotropes and vasopressors on mortality: A meta-analysis of randomized clinical trials. *British Journal of Anaesthesia,* 115 (5), 656-75.

Avni, T., Lador, A., Lev, S., Leibovici, L., Paul, M., and Grossman, A. (2015). Vasopressors for the treatment of septic shock: Systematic Review and meta-analysis. DOI:10..1371/journal.pone.0129305.

Abstract Summary:

Telemetry and Intensive Care unit beds are in demand, thus, utilization are often lean. Thus, these patients are critically ill & futile outcome, but family wants everything done. These patients remain on medical-surgical units, on inotropes/vasoactive drugs; care complexity & workload increases with a lack of specific guidelines for care.

Content Outline:

Introduction:

Telemetry and Intensive Care Unit (ICU) beds are in great demand, limited in number, costly and their use must be evidenced based (Crawford and Halm, 2016). So, who gets it? When patients are critically ill, the prognosis is grim, outcome futile, and the family wants everything done, where does the patient go? Often, these patients end up on telemetry medical-surgical (med-surg) units and require inotropic and vasopressor agents as treatment for cardiovascular syndromes. This generates many questions for the both the nurse and the patient. For instance, what is the patient to nurse ratio? How frequently must the nurse assess the patient? In the ICU, the ratio is 1:2 or 3 versus the medical-surgical setting 1: 6 or more; assessment in the ICU is hourly versus the telemetry med-surg every two to four hours. According to Overgaard and Dzavik (2016) there is very little evidence on the clinical efficacy of these agents. Thus, the purpose of this EBP project is to explore the literature for evidence on the administration of these agents on the telemetry med-surg unit, what is the nurse to patient ratio, what assessment is warranted, and how frequently.

Topic Selection:

Evidence-Based Practice Poster Session 1 (Saturday/Sunday, 16 & 17 November) (25743)

Abstract Text:

Introduction: Telemetry and Intensive Care Unit (ICU) beds are in great demand, limited in number, costly and their use must be evidenced based (Crawford and Halm, 2016). So, who occupies these beds? When patients are critically ill, the prognosis is grim, outcome futile, and the family wants everything done, where does the patient go? Often, these patients end up on telemetry medical-surgical (med-surg) units and require Inotropic and Vasopressor agents as treatment for cardiovascular syndromes. This generates many questions for the both the nurse and the patient. For instance, what is the patient to nurse ratio? How frequently must the nurse assess the patient? In the ICU, the ratio is 1:2 or 3 versus the medical-surgical setting 1: 6 or more; assessment in the ICU is hourly versus the telemetry med-surg every two to four hours. According to Overgaard and Dzavik (2016) there is very little evidence on the clinical efficacy of these agents. Thus, the purpose of this EBP project is to explore the literature for evidence on the administration of these agents on the telemetry med-surg unit, (1) what is the nurse to patient ratio, (2) what assessment is warranted, and (3) how frequently.

Purpose: The purpose of this EBP project is to explore the literature for evidence on the administration of Inotropic and Vasopressor agents as treatment for cardiovascular syndromes on the telemetry med-surg unit, (1) what is the nurse to patient ratio, (2) what assessment is warranted, and (3) how frequently.

Setting: A 30-bed telemetry medical-surgical unit within an acute care urban teaching hospital. There are 400 plus beds with multiple care settings. The population is diverse in terms or ethnicity, age, gender and geographic location. Care team include, physicians, residents/fellows, nurses and ancillary staff.

Design/Methodology: Clinical Question is: "For adult patients admitted to telemetry medical-surgical units with terminal illness requiring vasopressors/inotropes, what is the nurse to patient ratio, assessment and frequency?" IOWA model will be used.

Problem: Problem focused trigger (An adult patient with hypotension, DNR/DNI, spouse wanted everything to be done; patient had EKG changes on Norepinephrine (Levophed); ordered for Neosynephrine; no education/competency; no change in staffing ratio; no guidelines from administration on assessment and frequency)**.**

<u>The literature review was conducted according to the PICO question.</u>

P = adults, 18 years and older, who are DNR/DNI and needed vasopressor/s

I = titration versus no titration (capped); frequency of assessment

C = no titration on med-surg & every 4 hours assessment (med-surg)

O = Expected outcome: which vasopressors can be administered safely on telemetry units? What is the nurse to patient ratio? What assessment is needed and how frequently?

T = n/a

1. ***Search strategy:*** Searched electronic databases: PubMed, Cochrane, CINHALL,

2. ***Inclusion Criteria:*** human, English, randomized controlled trial, meta-analysis, case reports, popular literature, literature reviews, adults, DNR/DNI, medical-surgical, Intensive Care Unit, Vasopressors
3. ***Exclusion Criteria:*** no abstract present, abstract without manuscript, animal studies
4. ***Evidence appraisal***: articles were reviewed, levels classified according to the John Hopkins Nursing Evidence-Based Practice (EBP) and summary tool.

Results: retrieved 287 articles for review, with 8 selected to fit the inclusion criteria. Seven were Systematic Reviews/RCT/meta-analysis; 1- opinion of respected authority.

After review categorization:

- Outcomes comparing Vasopressor to placebo
- Outcomes comparing vasopressin to other vasoactive drugs, alone or combination with epinephrine or Neosynephrine, or oral Midodrine
- Outcomes comparing high doses of drug therapy to standard dosing

Summary of findings:

- Setting for vasoactive drugs – ICU/Stepdown
- Wide variability on outcomes, survival and mortality
- Monitoring – ICU, arterial pressure, frequent monitoring of blood pressure
- Limited data: on assessment frequency in medical-surgical units, DNR/DNI requiring Vasopressors, patient to nurse ratio

Recommendation: Current practice – expert opinion; need for research in this area.

Conclusion: Current practice in this acute care urban academic medical center is based on expert opinion, thus, front line nurses must advocate for themselves and their patients when patient situation cross the safety and quality boundaries of care delivery. There is a gap in the research on the use of vasopressors in the medical-surgical settings for patients who signed DNR/DNI, the frequency of assessment and the patient to nurse ratio.