What risk factors are known to increase the risk of failed spinal anesthesia in obese obstetric patients, and what can be done to improve patient outcomes? A Quality Improvement Project.

Alan Russell Bowles
Faculty Advisor: Gwendolynn Randall, PhD, CRNA, ARNP
UNION UNIVERSITY

Introduction

- Neuraxial anesthesia for obstetric patients provides high-quality pain relief without some of the negative effects of general anesthesia.
- Spinal anesthesia is a single injection of local anesthetic (and sometimes an opioid) into the subarachnoid space and epidural anesthesia involves placement of a catheter into the epidural space to inject local anesthetic (Gaiser, 2016).
- Administering neuraxial anesthesia to obese obstetric patients is more difficult and can be associated with an increase in failed anesthetics.
- Identification of risk factors that increase the chance of failed spinal anesthesia can facilitate the application of interventions to improve patient outcomes.

Background

- Clinical interventions to improve the success of neuraxial anesthesia in obese obstetric patients have been identified.
- By summarizing research and synthesizing a more complete perspective, this quality improvement project (QIP) will clarify the body of knowledge regarding the challenges and solutions in providing obese neuraxial neuraxial anesthesia.

This perspective will contribute to the nursing knowledge base and improve clinical practice.

Clinical Decision Tool

Clinical Decision Making Tool

Methods

- The objective of this DNP quality improvement project is to identify risk factors for failed spinal anesthesia in adult obese obstetric patients with a BMI greater than 30kg/m² and techniques to improve patient outcomes.
- A clinical decision-making tool will be synthesized after the review of research studies and expert opinions regarding the known risks of failed neuraxial anesthesia in obese obstetric patients and interventions to mitigate the risks.
- The review and integration of multiple information sources into one source of evidence-based practice recommendations may facilitate use in clinical practice.
- Participants of this study were all adults students of the Union University DNP Nursing Anesthesia class of 2021 cohort.
- The participants were asked to review a clinical-decision tool synthesized from the review of research studies and expert opinions regarding the known risks of failed anesthesia in obese obstetric patients and interventions to improve patient outcomes.

Results

- Interventions identified from review of literature include increased training, use of low concentration local anesthetic with opiates, frequent assessment of sensory block, leaving increased length of catheter in the epidural space, identification of vertebral midline using tactile feedback from supraspinous ligament, and identification of the vertebral midline using patient feedback from placement attempt.
- Of the 25 students emailed, 12 completed the review and subsequent survey.
- 75% strongly agreed the information is relevant to their clinical practice.
- 33.3% strongly agreed and 66.7% agreed the tool is clear and concise.
- 33.3% strongly agreed, 50.0% agreed, 8.3% neither agreed nor disagreed, 8.3% disagreed the organization and presentation of the tool was logical and coherent.
- 33.3% strongly agreed and 66.7% agreed the tutorial format to be an effective means of learning the material.
- 50% strongly agreed and 50% agreed the clinical decision-making tool encouraged them to integrate theoretical knowledge with clinical practice of neuraxial anesthesia management.
- 25% strongly agreed, 58.3% agreed, and 16.7% neither agreed nor disagreed the clinical decision-making tool has improved the ability to manage neuraxial anesthesia for obese parturients.

Conclusions

- The results of the implementation of the clinical decision tool revealed an overall positive learning experience.
- Responses revealed the graphical presentation of the tool may be too complicated to quickly draw inferences.
- A simplified graphical format may allow easier use for future users.
- This tool will help to develop strategies for improving patient outcomes, but hands-on experience may provide the best format to develop abilities of managing neuraxial anesthesia for obese parturients.

Bibliography