



# The Effectiveness of Ondansetron Administration Prior to Spinal Anesthesia to Reduce Hypotension

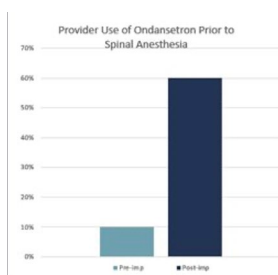
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## ABSTRACT

### Background/Purpose/Question:

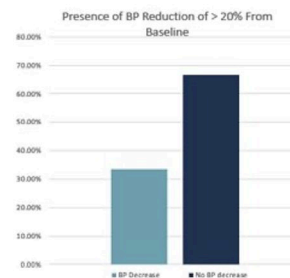
- Do parturients undergoing cesarean section who receive ondansetron prior to spinal experience less hypotension?
- The serotonin mediated Bezold –Jarish reflex triggered by spinal induced sympathectomy can cause hypotension, bradycardia, and vasodilation
- The purpose of this work is to present evidence on the effectiveness of ondansetron administration 5 minutes prior to spinal placement at reducing the incidence of spinal induced hypotension in the parturient
- The effectiveness of implementation was evaluated by answering the question, "Was a practice change made and did outcomes improve?"

## IMPLEMENTATION OF PRACTICE CHANGE



**Intervention:**  
4 mg IV Ondansetron  
5 minutes prior to spinal anesthesia

"4 Before It Hits the Floor"



- Before the presentation, 10% of providers reported using the recommended dosing suggested by the evidence.
- Two months after the presentation of evidence, the effectiveness of the education on practice change was evaluated. This evaluation found that 60% of providers adopted this practice.
- Of providers that reported a reduction in blood pressure > 20% from baseline, 20% stated the patient required treatment with a vasopressor more than twice.

## SYNTHESIS OF THE EVIDENCE

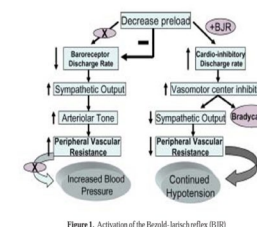


Figure 1. Activation of the Bezold-Jarisch reflex (BJR)

### More Information



- Ondansetron 4mg or 8mg- Gao et al. (2015)- Analysis of 10 RCTs concluded administration of ondansetron 5 minutes prior to spinal reduced hypotension, vasopressor consumption, bradycardia, and nausea/vomiting.
- Ondansetron 4mg or 8mg- Bhiwal et al (2021) Prospective, double blinded RCT found that administration of ondansetron 5 min prior to spinal reduced hypotension and vasopressor requirements in parturients undergoing elective cesarean section
- Granisetron 3mg or Ondansetron 8mg- Aksoy et al. (2021) The prophylactic administration of 8 mg of ondansetron or 3 mg of granisetron IV five minutes prior to a spinal anesthetic significantly lowered the ephedrine requirement in parturients undergoing elective cesarean sections
- Ondansetron 4mg- Al Zahraa et al. (2019)- Prophylactic administration of 4mg of ondansetron 5 minutes prior to spinal in parturient undergoing cesarean lowered the occurrence of hypotension, bradycardia, vasopressor use, nausea and vomiting

May 2023



**Picot**  
Formulated PICOT

July 2023



**Synthesis of Evidence**  
Presentation of the evidence

August 2023



**Meeting with Committee**  
Compiled the evidence and developed an implementation plan with committee

November 2023



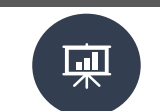
**Applied for IRB waiver**  
Waiver for IRB exemption submitted to University IRB reviewers

January 2024



**IRB Waiver**  
IRB waiver received and pre-implementation data gathered

February 2024



**Implementation**  
Educational session and Evidence presented to anesthesia providers

April 2024



**Evaluation of practice change**  
Evidence of practice change evaluated with a positive result

EVIDENCE-BASED PRACTICE



References