



The use of gastric point-of-care ultrasound (POCUS) for surgical patients receiving Glucagon-Like Peptide 1 (GLP-1) Receptor Agonists to assess residual gastric content

Brooks
College of Health

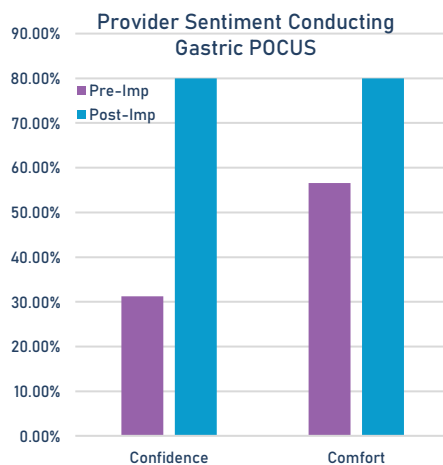
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ABSTRACT

Background/Purpose/Question:

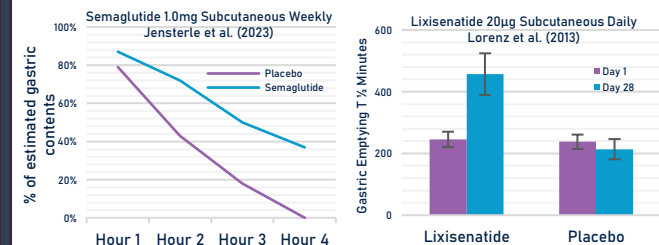
- Do GLP-1 receptor agonists increase residual gastric content in surgical patients?
- A majority of CRNAs have not received any formal gastric POCUS training as part of their academic education.
- The purpose of this work is to present evidence on the advantages of assessing residual gastric content in surgical patients receiving GLP-1 receptor agonists and develop a structured curriculum to provide CRNAs with the necessary skills and proficiencies to perform a gastric POCUS.

IMPLEMENTATION OF PRACTICE CHANGE



- Anesthesia providers at a rural hospital in the Midwest were educated using a multi-pronged education program that comprised of a formal presentation, a poster board reminder in the common area, and a learning platform using SONOSIM ultrasound POCUS simulators for measuring gastric volumes.
- Prior to the education program, 0% of providers had received formalized training on gastric POCUS to measure gastric volume.
- Pre/Post survey data 2 months after the education program showed provider comfort increased by 23.4% and confidence increased by 48.8% in performing a gastric POCUS to measure gastric volumes
- Data reviewed by the practice post-implementation found 33% of participants encountered gastric volumes greater than expected, which changed the anesthetic plan.

SYNTHESIS OF THE EVIDENCE



- Semaglutide 14mg Oral Daily – Dahl et al. (2021)
Oral semaglutide 14 mg delayed gastric emptying by 31% (p=0.005) during first postprandial hour. There was not a significant difference in gastric emptying over a 5-hour period.
- Liraglutide 1.8mg and 3.0mg Subcutaneous Daily – van Can et al. (2014)
Increased gastric emptying time of 23% with liraglutide 3.0 mg and 13% with 1.8 mg liraglutide compared to placebo during the first postprandial hour
- Semaglutide Variable Dosing – Sherwin et al. (2023)
Following 10 hours of fasting, 9 participants taking semaglutide and 1 participant in the control group had RGC (p = 0.005). Two hours after ingesting water, 7 participants taking semaglutide and 1 participant from the control group had RGC (p = 0.02).
- Semaglutide Variable Dosing – Silveira et al. (2023)
Increased residual gastric content was observed in 8 (24.2%) participants from the semaglutide group and 19 (5.1%) participants in the non-semaglutide group (p = 0.001).

May 2023



PICOT

Formulated a PICOT in the spirit of inquiry

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



Rehearse Implementation

Presentation of Implementation plan to committee

January 2024



Pre-Implementation Data gathering

Evaluated gastric POCUS use data

February 2024



Implementation

Administered Group Presentation, Simulation with Training, and Post Test

May 2024



Evidence from practice change Implementation

Increase in comfort by 23.4% and confidence by 48.8% in performing a gastric POCUS

EVIDENCE-BASED PRACTICE



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References