IS SURGICAL TECHNIQUE ASSOCIATED WITH LONG-TERM OUTCOMES FOR SLEEVE GASTRECTOMY?

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INTRODUCTION

- Sleeve gastrectomy resects a large segment of stomach without altering digestive system anatomy.

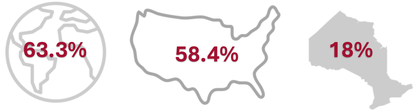


Figure 1. Rates of sleeve gastrectomy compared to other bariatric surgeries performed. Worldwide data from IFSO Registry (2022[1]). American data from ASMBS National Estimates (2015-2019)[2]. Ontario data from current study (2015-2023).

- Technique varies by surgeon with no consensus on which aspects result in greater and more sustained weight loss.
- Different technical aspects thought to affect the outcomes, with previous research showing the effects on short-term outcomes[3,4,5].
- This study aimed to examine how variations in technique affect long-term outcomes for sleeve gastrectomy.

METHODS

Patient Outcomes Data

- Retrospective chart review for patients having primary sleeve gastrectomy between 2015 and 2023.
- Baseline and follow up data obtained from Ontario Bariatric Network (OBN) registry

Surgical Technique Data

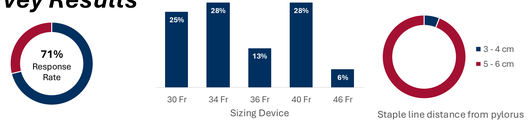
- Survey identifying technical aspects of sleeve gastrectomy was sent to all bariatric surgeons with patients identified in the registry

Data Analysis

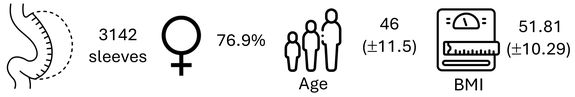
- Patient outcome data was linked with the survey results to examine the associations between surgical technique and patient outcomes
- Linear and Logistic Regression modelling performed

RESULTS

Survey Results



Patient characteristics



Patient weight loss

Patients with insufficient clinical response (<20% TBWL)

1 year: 26%

3 year: 39.3%

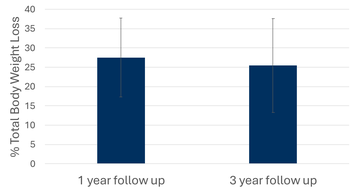


Figure 2. Average percentage total body weight loss at 1 and 3 year follow up

Sizing device

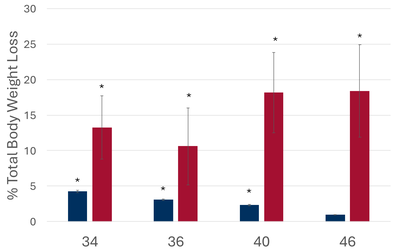


Figure 3. Percentage total body weight loss at 1 year (blue) and 3 year (red) follow up for sizing device compared to gastroscope for sizing (30 Fr) p<0.001.

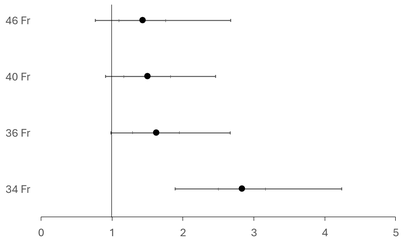


Figure 4. Odd ratio for achieving optimal clinical response (>20% TBWL) at 1 year follow up for sizing device compared to gastroscope for sizing (30 Fr) p<0.001.

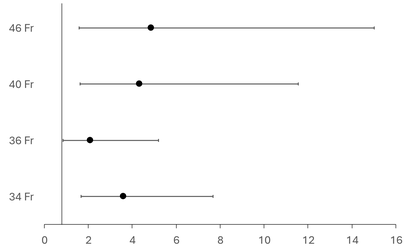


Figure 5. Odd ratio for of achieving optimal clinical response (>20% TBWL) at 3 year follow up for sizing device compared to gastroscope for sizing (30 Fr) p<0.01.

Staple line distance from pylorus

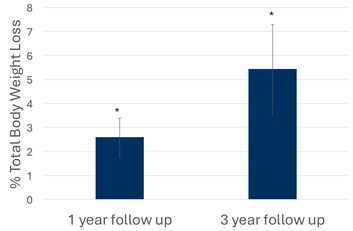


Figure 6. Percentage total body weight loss at 1 and 3 year follow up when staple line is 5-6 cm from the pylorus compared to 3-4 cm p<0.005.

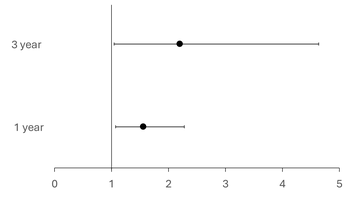


Figure 7. Odd ratio for achieving optimal clinical response (>20% TBWL) at 1 and 3 year follow up when staple line is 5-6 cm from the pylorus compared to 3-4 cm, p<0.05.

CONCLUSIONS

- Most study patients achieved an optimal clinical response
- At 1 year, a 34Fr bougie resulted in the greatest %TBWL and odds of achieving an optimal clinical response.
- However, at 3 years, 40Fr and 46Fr had the greatest %TBWL and odds of achieving optimal clinical response.
- At both 1 and 3 year, a staple line distance of 5-6cm had greater %TBWL and likelihood of achieving optimal clinical response.
- Overall, a 40 Fr bougie and 5-6 cm staple line distance from pylorus had most consistent long-term outcomes.
- The association between surgical technique and patient outcomes diminishes over time.

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