Effects of Preoperative Fasting Duration on Postoperative Outcomes in Metabolic and Bariatric Surgery

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Background

- Latest ASA guidelines recommend clear fluids up to 2-4hrs pre-operatively.
- ERAS guidelines propose reduced NPO time with clear liquids up to 2hrs for patient comfort and are limited by an overall low quality of evidence.
- Studies in other surgeries have shown decreased length of stay (LOS) with shorter NPO duration but data in bariatric surgery are limited.

Methods – Statistical Analysis

- A retrospective MBSAQIP 2016-2022 database analysis.
- Inclusion criteria: Patients with primary bariatric surgeries,
  - gastric bypass (RYGB)
  - gastric sleeve (GS)
- Total: 1,619 patients; 789 RYGB and 830 GS,
- Univariate analysis of surgical outcomes was performed, with patients stratified by NPO less than or greater than 8hrs with Chi-square test.
- NPO status >12hs and >16hrs was also evaluated.

Results

Outcomes	<8hrs NPO	>8hrs NPO	P-Value
Superficial Incisional SSI, n (%)	80 (100.00)	1443 (99.79)	1
Deep Incisional SSI, n (%)	80 (100.00)	1446 (100.00)	1
Urinary Tract Infection, n (%)	79 (98.75)	1423 (98.41)	1
Sepsis, n (%)	80 (100.00)	1445 (99.93)	1
Acute Renal Failure, n (%)	80 (100.00)	1439 (99.52)	1
Transfusion, n (%)	78 (97.50)	1416 (97.93)	0.683
Death, n (%)	80 (100.00)	1442 (99.72)	1
Readmission, n (%)	77 (96.25)	1371 (94.81)	0.794
Reoperation, n (%)	78 (97.50)	1422 (98.34)	0.643
LOS, mean (SD)	1.82 (1.05)	1.83 (2.42)	0.955

Outcomes	Odds ratio (95%CI)	P-value
Post-Operative Transfusion	0.848 (0.198, 3.639)	0.825
ICU Admission	1.375 (0.18, 10.52)	0.759
Readmission	1.477 (0.448, 4.87)	0.522
Reoperation	0.675 (0.154, 2.963)	0.603
LOS>3	1.588 (0.562, 4.484)	0.383

Logistic regression models for **NPO>8 hours** adjusted on age, sex, race, BMI, and smoking status.

Results

- Patients with NPO <8hrs had similar outcomes to those >8hrs.
- LOS: 1.82 and 1.83 days, respectively.
- Readmission rate: 3.75% and 5.19%, respectively.
- No differences were observed by univariate and multivariate analysis on SSI, transfusion, reoperation, intervention, or cardiopulmonary complications.
- No differences in outcomes were seen at the 12hr and 16hr cutoffs.
- No difference was observed between procedure type.

Conclusions

- A prolonged preoperative fasting state of ≥8hrs did **not** result in increased LOS or rate of readmission in our bariatric cohort.
- With bariatric patients potentially being on medications that delay gastric emptying, care must be taken when pushing for shorter NPO times without more data showing significant differences in patient outcomes.
- Patients in our study were fed right after surgery which may account for results seen and may differ from data observed with procedures that involve post-operative fasting as well.
- Further research involves analysis of antiemetic and pain medication usage to detect potential differences.

References

Nossaman, Vaughn E et al. "Duration of Nil Per Os is causal in hospital length of stay following laparoscopic bariatric surgery." Surgical endoscopy vol. 31,4 (2017): 1901-1905. doi:10.1007/s00464-016-5191-4