Metabolic and Bariatric Surgery is Safe and Feasible as a Redo Foregut Procedure: An MBSAQIP Study

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Background

- Obesity is a significant health concern worldwide, and bariatric surgery has become an essential intervention for weight management in patients with severe obesity. However, the complex disease of obesity and related medical issues may require redo surgeries in a considerable number of cases. Consequently, bariatric patients with complications from their primary operation or with weight recurrence often require a revisional metabolic and foregut procedure. In addition, a proportion of bariatric patients have a history non-bariatric foregut surgery such as hernia repair, oesophageal surgery etc. This history of surgery for foregut theoretically increases the complexity of planned bariatric surgery. However, current literature limited on bariatric surgery for this highly specific patient group. This study aimed to investigate the perioperative outcomes of metabolic and bariatric surgery as a redo/revisional foregut procedure.

Methods – Statistical Analysis

- To investigate bariatric and metabolic surgery outcomes in patients with history of foregut surgical procedures, a retrospective analysis was conducted using the participant usage file (PUF) database from the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) for the years 2015 to 2018. We assessed the frequency of perioperative outcomes to gain insights into the impact of prior foregut surgical history on bariatric and metabolic surgery outcomes.

Results

Table 1. Perioperative Outcomes in Redo-Metabolic and Bariatric Surgery

Complication	Frequency
30-day mortality	0.2 %
Unplanned need for ICU	1.5 %
Deep vein thrombosis	0.2 %
Acute Renal Failure	0.12 %
Need for CPR	0.08 %
Coma	0.005 %
Stroke	0.02 %
MI	0.04 %
Peripheral nerve injury	0.005 %
Progressive renal insufficiency	0.1 %
Pulmonary Embolism	0.2 %
Need for Transfusion	1.4 %
Need for Re-Intubation	0.2 %
Wound Disruption	0.2 %
Need for reoperation (30-day)	3.2 %
Re-admission (30-day)	6.1 %
Re-intervention (30-day)	2.9 %
Incisional hernia	0.1 %

Results

- Out of the 760,076 patients included in the database, a total of 119,667 (15.7%) had a history of prior metabolic/foregut surgery, highlighting the prevalence of redo bariatric procedures. Notably, the 30-day mortality rate was found to be rare, affecting only 0.2% of patients, indicating the overall safety of metabolic and bariatric surgeries. The most common complication observed among the patients was "Re-admission (30-day)" with a frequency of 6.1%. "Need for reoperation (30-day)" was the second most prevalent complication, occurring in 3.2% of cases. Regarding life-threatening complications, "Acute Renal Failure" was reported in 0.12% of cases, "Stroke" in 0.02%, and "MI (Myocardial Infarction)" in 0.04% of patients. Several complications were infrequent, with frequencies below 0.1%. These included "Coma" (0.005%), "Peripheral nerve injury" (0.005%), and "Incisional hernia" (0.1 %). The study also documented the need for specialized medical interventions. "Unplanned need for ICU" was required in 1.5% of cases, and "Need for CPR" was observed in 0.08% of patients. Complications related to thrombosis and embolism were also evaluated. "Deep vein thrombosis" and "Pulmonary Embolism" were identified in 0.2% of patients each. Additional noteworthy complications included "Progressive renal insufficiency" (0.1%) and "Prolonged discharge (drainage) (30-day)" (0.8%). Furthermore, "Need for Transfusion" was observed in 1.4% of cases and "Need for Re-Intubation" was reported in 0.3% of patients. Lastly, "Wound Disruption" occurred in 0.2% of cases.

Conclusions

- This study demonstrates that metabolic and bariatric surgery as a redo/revisional foregut procedure is feasible and safe, with low and acceptable rates of mortality and morbidity. Despite the complex nature of obesity and the need for redo interventions, the study results provide valuable insights into the relatively low rates of adverse events following these surgeries. Understanding the perioperative outcomes and associated risk factors can help in optimizing patient care and enhancing surgical approaches for patients requiring redo bariatric procedures.