

## Persistent Nausea and Vomiting S/P Bariatric Surgery: A Case Report

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### Abstract

This case report is of a 43-year-old African American woman with eight months of severe nausea following gastric bypass revision surgery. The patient has successfully lost 135 pounds, but the nausea and vomiting affected her daily activities. Symptoms of nausea post-gastric bypass surgery are expected, but continuing to present for eight months is uncommon. Possible treatments include pharmacological and non-pharmacologic ones, allowing the patient to participate in daily activities and lead a healthy life while continuing to lose weight. The initial plan was for the patient to keep a food diary to identify possible triggers. The case presentation will discuss the patient's visit to the office to discuss her persistent nausea after the gastric bypass in June 2022.

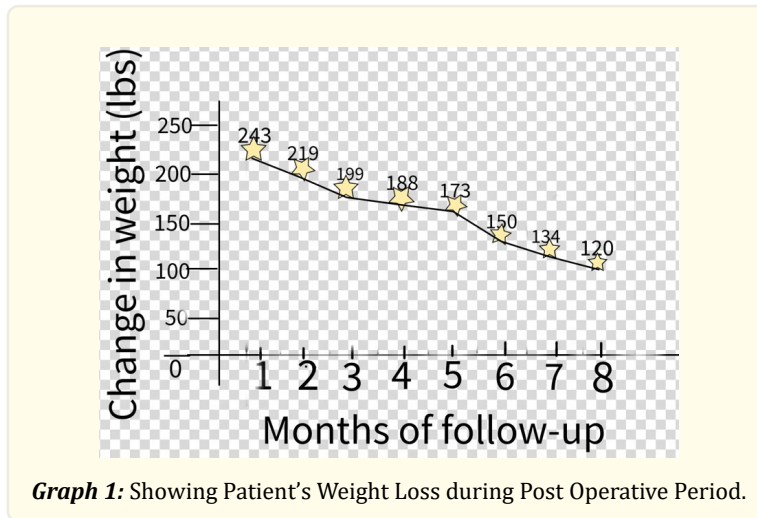
### Introduction

When discussing the many bariatric surgery procedures, two principles remain as the baseline to aid the patient in achieving weight loss: malabsorption and restriction. Malabsorption is accomplished by bypassing a portion of the small intestine, resulting in partial, selective malabsorption, as in gastric bypass and biliopancreatic diversion surgery [1]. In the case of a vertical gastroplasty or gastric band, the restriction reduces the volume of solid food eaten by manually lowering the capacity of the proximal stomach. This gastric bypass procedure has been more effective in achieving and maintaining weight loss. A study found a 68% excess weight reduction when patients underwent gastric bypass surgery, with the weight loss sustained for up to 14 years [2]. Given these outstanding results, the gastric bypass procedure has been associated with many postoperative complications. Nausea and vomiting are the most common symptoms after gastric bypass surgery [3], and the pathophysiologic mechanisms behind these complications will be discussed in this article. On average, nausea and vomiting after gastric bypass surgery can last 1-5 weeks [4]. In this case report, we present the case of a 43-year-old African American woman complaining of severe nausea and vomiting eight months post gastric bypass revision surgery.

### Case Presentation

A 43-year-old female visited the office for her persistent nausea and vomiting consultation status post gastric bypass in June 2022. The patient denies intra- and postoperative complications and states she developed severe nausea after her weight loss bariatric sur-

gery. She got a peripherally inserted central catheter (PICC) line and multiple hospitalizations due to dehydration and malnutrition. The patient was on Zofran with minimal relief and had a full workup to analyze the etiology of nausea, but it did not help her. The patient was tearful and said her lifestyle is affected as she cannot work or do much activity. The patient’s highest Pre-op weight was 255 lbs, and her post-op weight after 1 month was 243 lbs. Patient lost 135 lbs in a span of 8 months and weighed 120 lbs in February 2023. Her weight loss postoperatively in 8 months is shown in the graph below (Graph 1).



**Vital signs on arrival:** Weight: 120 lbs, Height: 5 feet 7 inches, BMI: 18.8 kg/m<sup>2</sup>, Blood pressure (BP): 140/90 mm of Hg Pulse: 89 bpm (beats per minute).

**Assessment:** Eight months of S/P gastric bypass with significant weight loss but issues with nausea and vomiting. The patients’ labs were normal, including normal LFTs.

**Treatment:** A trial with Reglan 10 mg, one tablet QID. The patient was given a sample copy to note food or GI (gastrointestinal) symptoms as indicated in table:1 and advised to maintain a food diary to check for any foods that trigger or help her nausea and vomiting [5]. She was educated to take soft foods and hot, cold, or room-temperature drinks as per her comfort.

**Instructions:** Please record everything you eat and drink (including ice and water taken with your medications). Circle your symptoms if any as they occur after meals and snacks.

Date:	Food & Beverages and Amount	Symptoms if any (circle).
Breakfast Time:		Nausea Vomiting Heartburn Stomach Pain Diarrhea Constipation Sense of Urgency Gas Bloating Cramping Other:
Snack Time:		
Lunch Time:		Nausea Vomiting Heartburn Stomach Pain Diarrhea Constipation Sense of Urgency Gas Bloating Cramping Other:
Snack Time:		
Dinner Time:		Nausea Vomiting Heartburn Stomach Pain Diarrhea Constipation Sense of Urgency Gas Bloating Cramping Other:
Snack Time:		

**Table 1:** Showing the Food Diary followed by the Patient on Everyday Basis.

## Discussion

Weight loss surgery is one of the most happening surgeries nowadays due to the prevalence of obesity. Various sub-types include Roux-en-Y gastric bypass, Biliopancreatic diversion gastric bypass, sleeve gastrectomy, and Laparoscopic gastric banding. These procedures can be categorized as restrictive, limiting food intake by reducing stomach size; Malabsorptive, limiting food absorption by bypassing parts of the small intestine; or as a combination of both. As per the American Society for Metabolic and bariatric surgery, individuals with a BMI of  $35\text{Kg}/\text{m}^2$  or higher, regardless of the presence or absence of co-morbidities, Individuals with metabolic disease and a BMI of  $>30\text{Kg}/\text{m}^2$ , are eligible for bariatric surgery [6]. The pre-operative psychological assessment is designed to rule out the psychiatric and cognitive factors which might interfere with the result of the operation. This psychological assessment mainly concentrates on behavioral challenges, understanding of the surgical procedure, eating behavior, emotional factors, and stress [7].

In an observational study, PONV was found in 78% of women and 26% of men in an observational analysis of 74 individuals. Even with optimum and supraoptimal prophylaxis, the incidence of PONV was 82% and 59%, respectively [8]. Research done by Kruthiventi in 2020 found that, while dexmedetomidine patients had decreased perioperative opioid and volatile anesthetic usage, the incidence of PONV following anesthesia recovery was comparable in dexmedetomidine and standard anesthetic patients ( $n = 37$  [21.3%] and  $n = 61$  [19.5%], respectively). While dexmedetomidine-based anesthetics were linked to lower opioid and volatile agent usage, they were unrelated to lower PONV [9].

As surgeries increase the risk of postoperative nausea and vomiting, it is vital to provide prophylactic treatment instead of initiating therapy after PONV. Several standard treatment protocols are available for postoperative nausea and vomiting (PONV) after bariatric surgery for patients with an increased risk of PONV, such as early adolescents to middle-aged, motion sickness, female non-smokers, etc. In addition to this type of surgery, other surgeries like intracranial, abdominal, tympanic, etc., increase the risk of PONV, and conditions such as dehydration and electrolyte changes also contribute to an increased risk of PONV.

### *Prophylactic antiemetic agents*

**Preoperative period:** Medications that were shown to reduce PONV include serotonin or 5 HT<sub>3</sub> antagonists such as ondansetron, dopamine antagonists such as droperidol, metoclopramide, cholinergic or M antagonists such as preoperative transdermal scopolamine, histamine antagonists such as dimenhydrinate, NK1 antagonists such as aprepitant, steroids such as Dexamethasone, alpha-2 antagonists such as dexmedetomidine, anesthetics such as IV propofol, and benzodiazepines such as midazolam.

**Perioperative period:** As all opioids can strengthen the risk of PONV, replacing these drugs with multi-pain therapy with NSAIDs reduces the risk of PONV.

Post-surgery bariatric multivitamins containing calcium with vitamins D, B12, C, and Iron are recommended, as deficiency leads to muscle weakness, paraesthesias, anemia, poor bone health, and osteoporosis along with continued antiemetics.

### *Alternative non-pharmacological treatments*

Early mobilization after surgery can help promote blood flow, reducing the risk of complications and PONV. Enhanced Recovery After Surgery Protocol (ERAS) means patients discharged from the hospital sooner reported lower pain scores and required fewer opioids compared with patients who did not use ERAS protocols. Acupuncture causes stimulation of specific points in the body, which is helpful to some extent. Ginger has been used as a natural remedy for nausea and vomiting for centuries, which has some effect on reducing PONV management. Relaxation techniques such as deep breathing and meditation can help reduce anxiety and stress, which may contribute to PONV.

In addition to nausea and vomiting, as complained in this patient, gastric bypass surgery is associated with several postoperative complications, including cholelithiasis, marginal ulcer, anastomotic leakage, bowel obstruction, dumping syndrome, internal bleeding, and peritonitis. Subsequent postoperative follow-ups should address all these issues.

## Conclusion

Understanding the options for managing postoperative nausea and vomiting (PONV) after bariatric surgery may increase the quality of care and improve patient outcomes. Nausea is a robust response to modifying behaviors. Reducing the incidence of PONV after bariatric surgery may improve patients' compliance with postoperative diet and nutrition plans for long-term weight management goals. Each postoperative patient possesses individual needs and preferences regarding postoperative care; therefore, a multidisciplinary approach may be necessary for the optimal management of PONV.

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