



## GI/GU/Thoracic/Nonvascular Interventions Case Report

# Percutaneous gastrostomy tube placement in a patient with prior sleeve gastrectomy

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## ABSTRACT

Sleeve gastrectomies have quickly become the most common bariatric weight loss surgery performed in the United States (U.S.). Given that hundreds of thousands of gastrostomy tubes (G tubes) are also placed each year, the number of patients with prior sleeve gastrectomies requiring a G tube will surely rise in the coming years. The case presented herein is a patient with prior sleeve gastrectomy who underwent percutaneous G tube placement.

**Keywords:** Gastrostomy tube, G-tube, Interventional radiology, Sleeve gastrectomy

## INTRODUCTION

Gastrostomy tube (G tube) placement is a commonly performed procedure with almost 800,000 placed in the U.S. between 2010 and 2014.<sup>[1]</sup> The reasons for G tube placement are broad and include stroke, head injury, upper GI tract cancer, burn victims, and patients with chronic GI diseases such as Chrons.<sup>[2]</sup> Although there is literature describing percutaneous G tube placement into the gastric remnant in patients with prior Roux-en-Y surgery for decompression or nutrition, there is a little literature describing G tube placement in patients with prior sleeve gastrectomy.<sup>[3,4]</sup> The sleeve gastrectomy has quickly become the most commonly performed bariatric weight loss surgery accounting for 61.4% of bariatric surgeries in 2018 up from 17.8% in 2011.<sup>[5]</sup> This significant increase in sleeve gastrectomy surgery will surely cause a growing number of patients with sleeve gastrectomies in need of a G tube in the years to come. In the presented case, a patient with newly diagnosed tonsillar squamous cell carcinoma (SCC) and prior sleeve gastrectomy underwent percutaneous G tube placement before undergoing chemoradiotherapy.

## CASE REPORT

A 65-year-old Caucasian female initially presented to the otolaryngology clinic with throat pain, weight loss, and muffled voice. In office biopsy was positive for tonsillar SCC and follow-up PET/CT showed regional hypermetabolic lymphatic activity but no distant metastasis. The patient was referred to radiation oncology who decided to initiate chemoradiotherapy treatment. In preparation for treatment, the patient was referred to interventional radiology for percutaneous G tube placement.

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During review of the patient's history before G tube placement, the patient was noted to have a history of laparoscopic sleeve gastrectomy surgery in 2011 without major complications in the interval time period. The patient's PET/CT were reviewed to assess the present upper abdominal anatomy. PET/CT demonstrated a normally positioned stomach status post sleeve gastrectomy with a safe window between the stomach and abdominal wall for G tube access, free of intervening bowel, or liver [Figure 1].

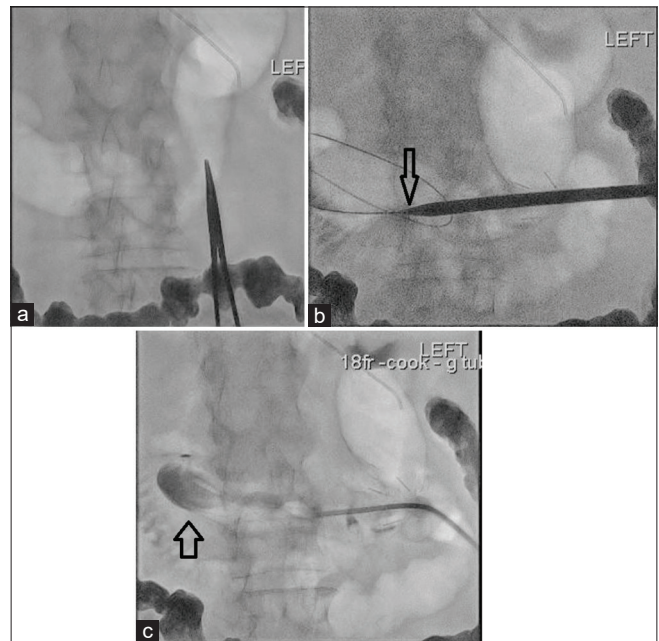
On the night before the procedure, the patient was instructed to drink barium contrast to help identify the bowel on the day of the procedure. On the day of the procedure, the patient was first imaged with an ultrasound probe to identify the liver edge. The patient was then prepped and draped and the stomach was insufflated with air through a previously placed nasogastric tube. Using fluoroscopic guidance, the anterior body of the stomach was punctured with care to avoid the greater curvature where the staple line was identified on prior cross-sectional imaging [Figure 2a]. Three small T fasteners (Avanos, Alpharetta, GA) were then placed and secured. Next, the stomach was punctured between the T fasteners and a stiff guide wire (Cook Medical, Bloomington, IN) was placed. The tract was then sequentially dilated and an 18 French balloon retention G tube (Cook Medical, Bloomington, IN) was placed into the stomach and the balloon was filled with saline [Figure 2b and c]. Contrast was then injected through the G tube and correct placement within the gastric lumen was confirmed. The patient was admitted overnight for routine observation and was discharged the next day without complication. Approximately 1 week later, the patient returned for a mediport catheter placement. During this admission, the G tube was visually inspected on physical exam and the T fasteners were removed. No complications were noted at 1 week post-operative. Unfortunately, the patient passed away approximately 1 month post procedure secondary to a stroke and pulmonary emboli and long-term follow-up for the patient is not available.

## DISCUSSION

Percutaneous G tube placement is a commonly performed procedure; however, there is scant literature describing G tube placement in patients with prior sleeve gastrectomy. As the number of patients undergoing bariatric surgery, specifically sleeve gastrectomy, increases, the number of these patients in need of G tube placement will surely increase. This case report describes a patient with prior sleeve gastrectomy for morbid obesity who presented for G tube placement for nutritional support before beginning chemoradiotherapy for tonsillar SCC. Although the long-term results are limited in this case secondary to the unfortunate death of the patient from unrelated causes within 30 days postoperatively, the immediate post-operative course was uneventful. This case will hopefully provide reassurance and guidance to



**Figure 1:** A 65-year-old woman with tonsillar squamous cell carcinoma who presented for G tube placement before chemoradiation treatment. Axial non-contrast CT image from PET/CT through the upper abdomen shows a normally positioned stomach with staple line along the greater curvature (arrow) and a window from the anterior abdominal wall to the stomach free of intervening liver or bowel.



**Figure 2:** (a-c) A 65-year-old woman with tonsillar squamous cell carcinoma who presented for G tube placement before chemoradiation treatment. (a) Frontal fluoroscopic image showing stomach insufflated with air and hemostat identifying initial puncture location. (b) Frontal fluoroscopic image of the stomach showing dilator tip (arrow) passing over the wire into the stomach. (c) Frontal fluoroscopic image of the stomach showing contrast injection through the G tube confirming placement within the stomach with contrast in the gastric lumen (arrow).

physicians contemplating percutaneous G tube placement in patients with prior sleeve gastrectomy and may help stimulate future studies and discussion of the efficacy and need for G tube placement in patients with sleeve gastrectomies.

## CONCLUSION

Percutaneous G tubes can be safely placed in patients with prior sleeve gastrectomy.

## Acknowledgments

None.

## Declaration of patient consent

Patient's consent not required as patients identity is not disclosed or compromised.

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## Conflicts of interest

There are no conflicts of interest.

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