

Case Report

Cecal volvulus secondary to gastric band surgery

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ABSTRACT

Cecal volvulus is a rare complication following gastric band surgery. Continuous progress in surgical technique of adjustable gastric banding and the increasing experience of surgeons has decreased the rate of complications. However, because different complications may have the same clinical presentation but require different treatment, to give a definitive diagnosis radiologist must be aware of this complication as it can be fatal to patient if remains undiagnosed or misdiagnosed.

Keywords: Cecal volvulus, Gastric band surgery, Post-operative complication, CT Abdomen

CASE REPORT

A 55 year old lady presented in emergency department with sudden onset of severe central abdominal pain and multiple episodes of vomiting. She had history of previous gastric band surgery 6 months before. On clinical examination, abdomen was distended and had generalized tenderness. She had not passed stool for the past 2 days. Blood tests were unremarkable. Based on these findings, clinical suspicion of intestinal obstruction was made and urgent CT scan abdomen with contrast study was arranged.

On CT scan findings, fecal matter and gas filled dilated cecum was rotated and displaced superiorly anterior to liver with twisting of adjacent mesentery and vessels around the gastric band tubing in the right side of abdomen with adjacent fat stranding as illustrated in Figure 1. There were no signs of bowel perforation or ischemia. No intra-abdominal collection or free fluid. Small bowel loops were unremarkable. Solid organs were unremarkable.

Patient was operated on urgent basis and confirmed the findings intraoperatively which showed mesentery slung over the tubing, it was fixed arrangement as tubing was embedded at root of mesentery, fixity of colonic part of mesentery to tubing provided pivot to the cecal volvulus. No evidence of bowel ischemia or perforation noted.

Based on the imaging and intraoperative findings, final diagnosis of cecal volvulus causing intestinal obstruction secondary to gastric band surgery was made. Differential diagnosis is (1) post-operative adhesions in which gastric band should be in the normal position on imaging and should not provide any pivot for mesenteric or cecal twisting. (2) congenital bands causing cecal volvulus occur mainly in pediatric and young population and again gastric band should be in normal position in such case.

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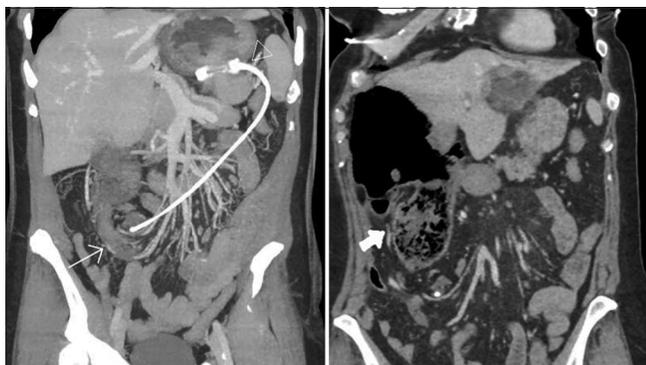


Figure 1: Coronal thick MIP and MPR CT images showing malpositioned gastric band (arrowhead) and its distal end in right lower abdomen with adjacent twisted mesentery (arrow). Dilated and malpositioned caecum in right upper abdomen (solid arrow) with adjacent mesenteric twisting.

DISCUSSION

Cecal volvulus is a rare cause of bowel obstruction and is associated with high mortality rates between 15% and 17%.^[1] Cecal volvulus is caused by axial twisting of the cecum, involving the ascending colon and terminal ileum, and resulting in a closed loop obstruction of the cecum.

The previous surgery is known to be a risk factor with up to 68% of patients having previous abdominal surgery.^[2] To the best of our knowledge, there are only few published case reports of cecal volvulus following gastric banding.

Laparoscopic adjustable gastric banding is a popular procedure worldwide and is considered to be the least invasive surgical option for morbid obesity. In this procedure, silicone band with inflatable cuff is looped around the fundus, 2–3 cm below gastroesophageal junction. Opening (stoma) is adjustable by accessing subcutaneous port connected to inflatable cuff.

Table 1 shows the list of early and late complication following gastric banding surgery.

The procedure has been shown to be associated with high incidence of late complications.^[3] Although cecal volvulus is a rare complication, it should be suspected in patients who have undergone laparoscopic adjustable gastric banding and who present with signs of intestinal obstruction.

The emergence of many problems, such as this, can be minimized with enhancement in the development of better surgical materials, proper operative technique, and close post-operative management and follow-up.^[4]

TEACHING POINTS

1. Although the cecal volvulus is the rare complication, it should be suspected in any patients who have undergone laparoscopic

Table 1: List of complications post gastric band surgery.

Early complications	Late complications
Gastric band malposition	Gastric band slippage
Gastric band erosion.	Eccentric pouch dilatation
	Gastric stomal stenosis
	Port and catheter related complications
	Esophageal dysmotility and reflux.

adjustable gastric banding presenting with signs of intestinal obstruction.

2. In gastric banding, excessive weight loss causes lengthening of mesocolon which can be a predisposing factor to cecal volvulus.
3. Gastric banding is the least invasive surgical option for morbid obesity; however, it has high incidence of late complications like intestinal obstruction.

MCQs

1. A 40-year-old lady had laparoscopic gastric banding 2 months ago, presented with severe abdominal pain, vomiting, and abdominal distension. On examination, patient has tense and tender abdomen. No fever and normal CRP. Plain X-ray shows dilated bowel loops with no pneumoperitoneum what could be possible underlying cause.

- A. Gastric erosion
- B. Perforation
- C. Cecal volvulus
- D. Slipped band

Answer Key: c

2. Which of the following is rare but serious complication of gastric banding.

- A. Gastric erosion
- B. Band slipping.
- C. Port infection
- D. Cecal volvulus

Answer Key: d

3. A 35-year-old male had laparoscopic gastric banding a month ago, he is having frequent episodes of diarrhea, nausea, light headedness, and tired after meals, what could be possible complication?

- A. Gastric erosion
- B. Dumping syndrome
- C. Slipped band
- D. Cecal volvulus

Answer Key: b

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent.

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Conflicts of interest

There are no conflicts of interest.

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