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# Total small bowel herniation through the space between the connecting tube of gastric band and abdominal wall

## A case report of a surgical emergency

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## ABSTRACT

**INTRODUCTION:** Laparoscopic adjustable gastric banding is one of the most frequently done procedures for morbid obesity. In most reported cases, the band itself is the cause of complications. There are only a few reports of morbidities caused by the connecting tube. This presentation describes a case of acute abdomen due to small bowel herniation between the connecting tube and the abdominal wall. This case report aims to remind clinicians of possible complications caused by the connecting tube of a gastric band.

**CASE PRESENTATION:** We report about a 24-year-old male patient, who presented with acute abdomen. He had undergone gastric banding three years ago. According to his clinical presentation, the patient was diagnosed as having acute appendicitis.

Abdominal exploration revealed, total small bowel herniation between the connecting tube and the abdominal wall.

**DISCUSSION:** Although a simple procedure, laparoscopic gastric banding could have serious complications. Some of these complications could present years after the application of the gastric band. There are a few reports about complications caused by the connecting tube of the gastric band.

**CONCLUSION:** Complications caused by connecting tube should always be in mind, when assessing acute abdomen in patients with laparoscopic gastric band.

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## 1. Introduction

Laparoscopic adjustable banding is one of the most pervasive techniques in bariatric surgery [1]. The operation entails the application of a silicon band containing a balloon around the upper segment of the stomach. The band connects through a tube to a subcutaneous port. Repeated filling of the band is achieved through the subcutaneous port. This allows the creation of two gastric reservoirs.

The most common complications of gastric banding include band migration with stomach perforation, band slippage with pouch dilatation and band leakage [2]. Complications caused by the connecting tube are rare, but could be life threatening [3,4].

We report a case of small bowel herniation between the connecting tube and the abdominal wall. The patient presented with acute abdomen to the emergency department of the Air force Specialized Hospital in Cairo. He was misdiagnosed as a case of acute appendicitis.

## 2. Case presentation

A 24-year-old male patient presented to the ER with acute onset of periumbilical pain, which shifted to the right iliac fossa. In addition, there was repeated vomiting. He had undergone laparoscopic gastric banding three years ago. His BMI was 38.1 kg/m<sup>2</sup> before ligation and dropped to 28.2 kg/m<sup>2</sup> at the time of presentation. The drug and family history were irrelevant. Examination revealed tachycardia 110/min, normal temperature 37.2° and a blood pressure of 110/70. Abdominal examination revealed periumbilical tenderness, with maximal tenderness locating in the right iliac fossa. However, there was neither rebound tenderness nor rigidity or guarding. The patient was in severe pain out of proportion to his abdominal examination.

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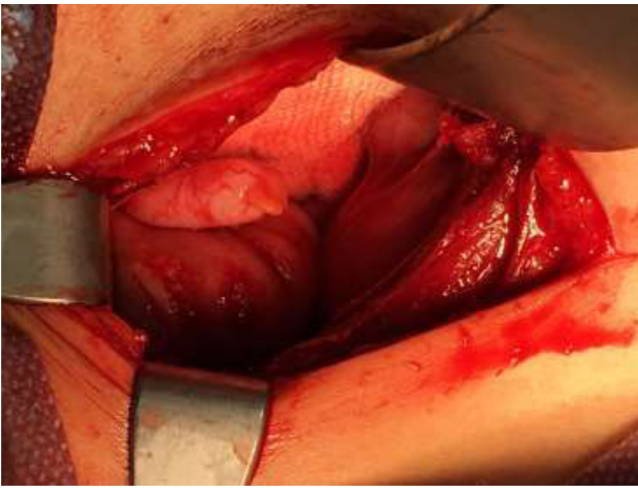
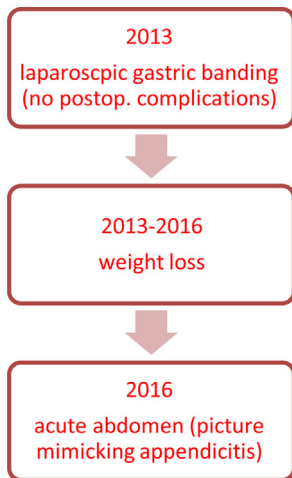


Fig. 1. A normal appendix was found through a McBurney's incision.



Fig. 2. Congested, dilated jejunum was found upon exploration.

3. Timeline



Abdominal ultrasonography revealed only a moderate degree of bowel loop distension. His total leukocytes' count was 5800 cells/ $\mu$ L, with shift to the left.

The patient was diagnosed as a case of acute appendicitis, and was transferred to operating theatre. Eventually, this turned out to be a misdiagnosis.

Under general anesthesia, McBurney's incision was done, and exposure of the appendix revealed an almost normal appendix (Fig. 1). The operating surgeon was a middle stage consultant of general surgery and surgical oncology. He noticed severely distended and congested small bowel loops, and felt a tube like structure other than the appendix.

Decision was taken to explore the abdomen through a midline incision. The exploration revealed a severely dilated and congested proximal jejunum (Fig. 2).

The connecting tube of the gastric band system was found looping around the root of mesentery causing incarceration (Figs. 3 and 4). The small intestine had herniated through the space between the connecting tube and the abdominal wall. Thorough examination of the stomach and small bowel revealed no perforation.

The band was deflated through the subcutaneous port, and the complete gastric banding system was removed, after cutting the band. The patient had a smooth postoperative course in a regular surgical ward. He was discharged 48 h post operatively.

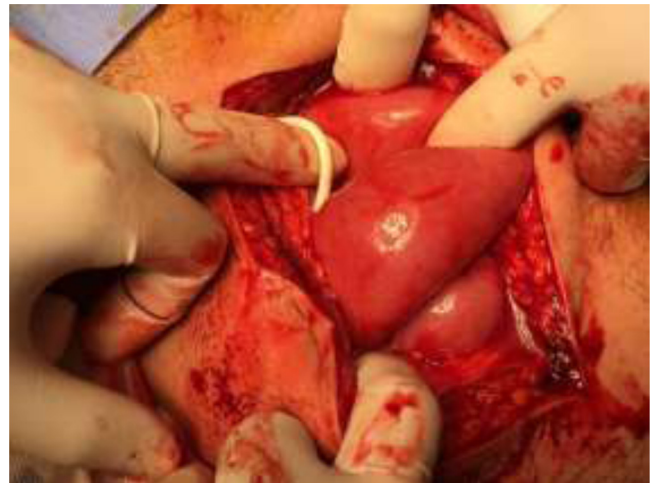


Fig. 3. Connecting tube identified.

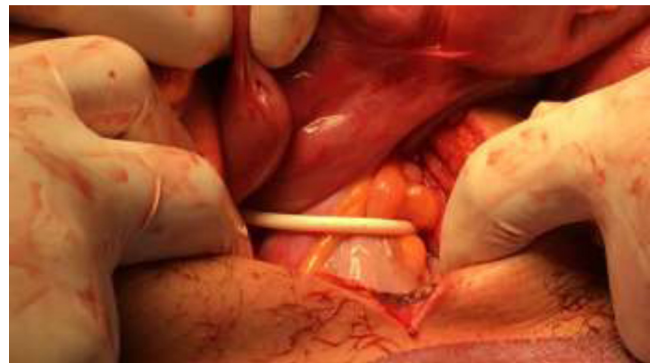


Fig. 4. Connecting tube looping around root of mesentery.

The patient came for follow up in the outpatient clinic two weeks after discharge. He had clean wounds, and reported full recovery.

4. Discussion

Although laparoscopic adjustable gastric banding is a quick and simple procedure for the management of morbid obesity, yet it is not without complications. Most reported complications are related to the band itself. However, there are limited reports

of morbidities due to the connecting tube. Although rare, these morbidities could be quite serious, and could mimic other acute abdominal conditions. Timely intervention warrants a high degree of clinical suspicion. The prompt surgical intervention in this case has prevented propagation to intestinal perforation or ischemia. Adequate assessment of other organs near the appendix is crucial during appendectomy. This is especially important, when the appendix is normal, or slightly inflamed. The operating surgeon should not overlook any abnormality found during laparotomies.

## 5. Conclusion

Laparoscopic adjustable gastric banding is one of the frequently done procedures for morbid obesity patients. The possibility of complications by the connecting tube should not be excluded in a patient with acute abdomen, and previous history of gastric banding.

## Conflicts of interest

The authors have no conflict of interest to disclose.

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This research did not receive any specific grant from funding agencies in the public, commercial, or non-profit sectors.

This work has been reported in line with the SCARE criteria [5].

## Ethical approval

This case report involved no research. Studies done on patients.

## Consent

An informed signed consent was taken from the patient prior to publication of his medical data.

## Author contribution

All authors have contributed in all steps of accomplishing this case report.

## Guarantor

All three authors are guarantors for the report.

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