Stomach torsion in pregnancy as a complication of laparoscopic adjustable gastric banding

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Citation: Dalia M, El-Hadi A, Smajer B. Stomach torsion in pregnancy as a complication of laparoscopic adjustable gastric band. JSCR 2012 3:1

ABSTRACT

Laparoscopic Adjustable Gastric Banding (LAGB) was done for the first time in Belgium in 1993. Gastric torsion after band slippage is extremely rare. Literature review of gastric banding and complications in pregnancy did not reveal any case of gastric torsion. Hence, we report this rare case of gastric torsion in a pregnant lady following gastric banding.

INTRODUCTION

Laparoscopic Adjustable Gastric Banding (LAGB) is a restrictive bariatric technique used in the management of morbid obesity, defined as a Body Mass index (BMI) of more than 45 kg/m².

LAGB was first performed in Belgium in 1993. Today, it is a popular choice in managing morbid obesity surgically due to its lower complication rates and technical simplicity and safety, when compared to other bariatric surgical procedures. (1)

LAGB was proven to result in a more significant reduction in weight; in addition to significantly improving obesity-related co-morbidities such as type-2 diabetes mellitus, hypertension, and dyslipidemia (2). Its proven role in preventing obesity-related obstetric complications add to its favourability (3).

Regarding the causes of mortality in LAGB, pulmonary embolism yields the highest mortality rates in the early post-operative period (4). On literature review, only two cases of mortality in the early post-operative period were due to stomach necrosis as a complication of LAGB (5).

To our knowledge, this is the first reported case of stomach torsion in pregnancy as a complication of LAGB.

CASE REPORT

We present a 25-year-old primigravida in her 29th weeks of gestation, with a two-week history of persistent vomiting associated with upper abdominal pain. Past surgical history included a
previous laparoscopic cholecystectomy and LAGB in 2007, which was deflated once the pregnancy was discovered. On physical examination, the patient was systemically well. Abdominal examination was unremarkable apart from a palpable uterus, which conformed to the gestational age. Blood results showed a reduced serum albumin at 32g/dL, with normal Full Blood Count, Urea and Electrolytes, and Liver Function. Ultra Sound-Abdomen and Oesophagastroduodenoscopy (OGD) were performed and did not reveal abnormalities. X-Ray studies and Computed Tomography (CT) were contraindications due to pregnancy.

Initially, we commenced conservative management with antiemetic, antispasmodic, analgesia, and Proton Pump Inhibitor. We sought advice from the Bariatric surgery team who agreed with our conservative management and close observation. The patient’s oral intake was deteriorating, therefore feeding via Nasogastric Tube (NGT) was commenced in order to maintain the patient’s nutritional status; and was later replaced with peripheral Total Parenteral Nutrition (TPN) due to the patient’s intolerance to the NGT.

The patient’s condition failed to improve after being managed conservatively for two weeks, and her nutritional status continued to deteriorate. This eventually led to the development of fatty liver, manifested as a raised Alanine Aminotransferase (ALT) of 591 and fatty liver changes on abdominal ultrasound. The fetus was also affected adversely as evident by an Intra Uterine Growth Restriction (IUGR) shown on Obstetric growth ultra sound scan.

In response to this deterioration, a multidisciplinary decision was made to proceed to an elective Caesarean section at 32 weeks, three weeks after admission. Outcome of the Caesarean section was a male, weighing 1875 g, who was admitted to the Neonatology unit due to prematurity.

During the post-partum period, the liver function, namely ALT, was noted to improve to normal levels.

A Barium swallow study, performed on the fifth day post-operation was reported, initially by a senior radiologist, as not showing evidence of mechanical obstruction. However, due to the patient’s continued deterioration, we suspected mechanical obstruction after reviewing the barium swallow, so we sought a second opinion from the radiology department, who confirmed this (Figure 1). Therefore, a decision to proceed with an urgent laparotomy that was performed that afternoon.
Intra-operatively, the gastric band was found in adhesion posterior to the stomach, and was removed. The stomach, which was found torted at 180 degrees, remained viable and was therefore not resected.

Post operatively, the patient improved and NGT was removed. We introduced a normal diet gradually while carefully monitoring for re-feeding syndrome. The patient continued to improve and was shortly discharged.

On her four months outpatient follow-up, the patient was well, asymptomatic and gained one stone in weight. Her baby was developing as expected for his age.

**DISCUSSION**

In the case of our patient, we believe that the vomiting in addition to the vertical growth of the uterus led to a gradual rotation of the stomach antero-ventrally. The fact that the gastric band was fixed (secondary to adhesions) to its surrounding structures including the Posterior aspect of the stomach, suggests that the gastric band acted as an axis or pivot onto which the stomach rotated in the manner described previously, eventually resulting in torsion of the stomach.

The delay in reaching the diagnosis in this case equated to a delay in commencing definitive treatment, and as a result, the patient developed fatty liver and fetal intrauterine growth restriction. This is due to the fact that it was challenging to treat our patient, as her symptoms were indeed non-specific and quite common in pregnancy. In addition, we had a limited number of imaging studies available for use during pregnancy. This case also highlights the difficulty in managing the complications of LAGB in small district general hospitals, as the staffs are not exposed regularly to the complications of LAGB.

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