Case Reports

Bleeding from the Upper Gastrointestinal Tract after Mason’s Vertical Banded Gastroplasty

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Background: Gastric bleeding is a rare complication after a vertical banded gastroplasty (VBG). Only a few cases of gastric bleeding after a VBG have been reported, and there is discussion about its etiology. We present two cases of gastric bleeding after a VBG, and discuss the etiology, diagnostic approach and management.

Methods: During the period 1989-98, we treated two cases of gastric bleeding out of 328 morbidly obese patients that underwent a VBG. The first patient was a 36-year-old woman with body mass index (BMI) 61.5. Gastric bleeding occurred on the 7th postoperative day, due possibly to the increased dose of Low Weight Molecular Heparin (LWMH) which was administrated as prophylactic anticoagulation. The second case concerns a 27-year-old man with 54.0 BMI. Gastric bleeding occurred on the 16th postoperative day and was attributed to a stress ulcer.

Results: Both patients were treated conservatively successfully. In the first patient, bleeding was stopped when LWMH was discontinued. In the second patient, bleeding was stopped by gastroscopic epinephrine injection in the bleeding spot.

Conclusions: From our cases and review of the literature, gastric bleeding after a VBG is rare, may be treated easily with conservative measures. Tension of the mesh that surrounds the canal between the two compartments, gastric mucosal irritation from the nasogastric tube and postoperative stress ulcer formation are the most frequent causes of this complication.

Key words: Morbid obesity, vertical banded gastroplasty, gastric bleeding

Introduction

According to Mason, bleeding in the upper digestive tract after a VBG is rare.1 Only a few cases have been described up to now,2-5 mainly as gastric bleeding from ulceration. Most authors believe that pressure from the annular mesh (Merselene, Dacron, or Marlex) which surrounds the canal between the two compartments of the stomach, is one of the main reasons for ulcer formation, although gastric mucosal irritation from the nasogastric tube (even if it is removed early) or other reasons are implicated. We present two cases of gastric bleeding after a VBG, and discuss the etiology and treatment.

Materials

In the 1st Surgical Department and Transplant Unit of Evangelismos Hospital of Athens, during the
Gastric Bleeding after VBG

period 1989-98, 328 morbidly obese patients [79 men and 249 women, aged 18-55 (mean age 32.4) with body mass index (BMI) 46-94 (mean BMI 56.2)] underwent a VBG. Of these patients, we treated only two cases of bleeding in the upper digestive tract and more specifically gastric bleeding, during the 1st postoperative month (0.6%).

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Case 1

A 36-year-old woman of 142 kg body weight and 1.52 m height (BMI 61.5) underwent a VBG. The patient’s postoperative course was uneventful, and she was discharged on the 4th postoperative day in good condition (her hemoglobin was 11.6 g/dl). On the 7th postoperative day, she had a sudden fainting episode and melena. She was readmitted urgently to hospital. Findings on physical examination included tachycardia (124 beats/min) and a low blood pressure (90/70 mmHg). Her hemoglobin was 8.4 g/dl, and she required transfusion of two units of blood and two units of fresh frozen plasma. At gastroscopy, many small bleeding foci were seen in the upper part of the stomach, mainly in the area of the lesser curvature and cardioesophageal junction. It should be noted that the patient received low molecular weight heparin, LWMH (Fraxiparine) during this postoperative period (100 Anti-Xa IU/kg), since the policy of our unit is continuation of anticoagulation medication with LWMH during the first 15 postoperative days at home. She had not used any non-steroidal anti-inflammatory drugs during this postoperative period. Immediate discontinuation of prophylactic anticoagulation was enough to stop the gastric bleeding. Since then (3 years postoperatively), the patient remains well and has not presented any other problem.

Case 2

A 27-year-old man of 156 kg body weight and 1.70 m height (BMI 54.0) underwent a VBG. The patient’s postoperative course was uneventful, and he was discharged on the 4th postoperative day (his hemoglobin was 13.1 g/dl). On the 16th postoperative day, he was readmitted because he had a fainting episode and a few melenas. He had low blood pressure (75/50 mmHg), a high pulse rate (136/min) and his hemoglobin was 7.8 g/dl. Prophylactic anticoagulation had been discontinued the previous day. The patient did not take any non-steroidal anti-inflammatory drugs during the postoperative period. He required transfusion of four units of blood and two units of fresh frozen plasma. Urgent gastroscopy showed a bleeding spot in a recent shallow gastric ulcer located in the lower corner of the vertical staple-line in the junction with the stitch of the circular window (on the upper compartment of the stomach pouch). Bleeding was stopped by gastroscopic epinephrine injection at the bleeding spot. The patient has not had recurrence of the gastric bleeding or any other problem up to now (1 year postoperatively).

Discussion

Gastric bleeding is an extremely rare complication after a VBG. The first case was described in 1995 by Ramirez and Turrentine in a pregnant woman that underwent a VBG 4 years previously. It was attributed to the patient’s nutritional difficulty and to the synthetic mesh that surrounds the canal between the two compartments.

In 1997, Kyzer et al using a silastic ring and Perez et al using a Marlex band reported two and one cases respectively of gastric bleeding after a VBG. In both papers, the ring or band that surrounded the canal between the two compartments was implicated as causing an ulcer. These gastric bleedings presented during the 1st postoperative month, and were treated easily with conservative measures.

In 1998, Mason, commenting on these three cases, noted that gastric bleeding is a rare complication after a VBG. In the first two cases, which occurred on the 18th and 30th postoperative days respectively, a big ulcer 1.5 cm in diameter was found in the lower part of the communicating canal (pouch outlet), and Mason mentioned that the tension of the Marlex mesh that surrounds the canal is the possible cause of gastric bleeding. Increased tension of the mesh on the gastric wall might provoke ulcer formation which later bled. Kyzer et al