Case report

Unusual cause of a perforated stomach

G Roche-Nagle, E Mulligan, E Connolly, B Lane

Department of Surgery, Beaumont Hospital, Dublin, Ireland

A case of gastric perforation 2 months following insertion of a gastric balloon is reported. The literature is reviewed regarding the complications and success rates inherent in such balloon devices. This is the first case report of an intra-gastric balloon causing gastric perforation.

Key words: Gastric perforation – Gastric balloon

Obesity is an increasingly common medical condition. Treatment options for obesity are multiple and include diet, behavioural therapy, medications or surgery. Unlike gastric stapling or gastric bypass, the placement of an intra-gastric balloon is relatively non-invasive. The intra-gastric balloon is an elastic, silicone balloon equipped with a radiopaque marker placed in the stomach endoscopically (Fig. 1). The rationale behind the intra-gastric balloon involves distension of the stomach leading to early satiety and hence weight loss. We report a case of a patient previously well who presented with an acute abdomen 2 months following insertion of a gastric balloon.

Case report

A 46-year-old lady presented to the emergency department complaining of a 6-hour history of severe generalised abdominal pain, which followed two episodes of vomiting. Her past medical history was unremarkable except for the placement of an intra-gastric balloon device 2 months earlier for obesity. On examination, she was tachycardic, hypotensive and diaphoretic, her abdomen was rigid and bowel sounds were absent. Free air was present on the erect CXR and a diagnosis of a perforated viscus was made.

Following resuscitation, a laparotomy was performed, the peritoneal cavity was contaminated with food debris

Figure 1 An illustration of an intra-gastric balloon.

and a large linear perforation (6 × 2 cm) was identified in the fundus of the stomach. The stomach was very distended proximal to the balloon, which was impacted in the distal stomach. A distal gastrotomy was performed to enable deflation and removal of the balloon device. The gastric mucosa was oedematous and ischaemic secondary to the distension. The linear tear and gastrotomy were closed in 2 layers and extensive peritoneal lavage was performed.

She was discharged home well 16 days' postoperatively.

Correspondence to: Mr Graham Roche-Nagle, Department of Surgery, The Royal College of Surgeons, Education and Research Centre, Beaumont Hospital, Dublin 9, Ireland. Tel: +353 1 8093231; Fax: +353 1 8093758; E-mail: grahamrochenagle@hotmail.com

Discussion

The intra-gastric balloon system is licensed for temporary use in moderately obese patients who have significant health risks related to their obesity and have failed to achieve and maintain significant weight loss with a supervised weight control programme alone. This system is also used for temporary weight loss in severely obese patients prior to obesity or other surgery, to help reduce surgical risk. It is placed endoscopically within the stomach and inflated with 400–700 ml of saline, the balloon partially fills the stomach to induce a feeling of satiety to support patients in reducing food intake and adopting new dietary habits. The balloon can be deflated and removed endoscopically. Consecutive balloons can be placed to extend treatment. The recommended maximum placement period is 6 months.¹ The risk of balloon deflation and intestinal obstruction is significantly higher when balloons are left in place longer than 6 months.

The use of the intra-gastric balloon for weight loss is controversial. However, results following use of the intra-gastric balloon are varied with many series failing to demonstrate significant or permanent weight loss.^{2–4} Complications documented include gastric erosions, gastric and duodenal ulceration, gastrointestinal haemorrhage, acute pancreatitis and spontaneous deflation of the intra-gastric balloon.^{5,6} During deployment, intra-gastric balloons may cause oesophageal perforation. Incomplete and complete

small bowel obstruction has been reported and a case of large bowel obstruction requiring surgical intervention has also been documented.⁷ This is the first documented case in the literature of gastric perforation secondary to an intra-gastric balloon. It is also important to note that the balloon was in place for less than the recommended 6 months. This case report highlights another life-threatening complication of the intra-gastric balloon, a device that has not conclusively been shown to be effective in reducing weight.

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