Spontaneous hyperinflation of intragastric balloon: What caused it?

Intragastric balloons (IGBs) are an established, minimally invasive treatment option for obesity. Multiple studies have shown them to be safe and effective in achieving weight loss at 6 months and 1 year. IGBs with newer designs, various filling volumes, and longer indwelling times are currently becoming available to minimize intolerance and improve patient adherence [1]. The overall reported rate of complications with IGBs is very low. However, when a complication does occur, it can be severe and debilitating [2]. In this video, we describe a relatively under-reported complication of IGBs.

A 42-year-old woman underwent endoscopic placement of an IGB for the treatment of obesity (weight 76kg, body mass index 31kg/m²). She did not have any co-morbidities. The stomach was normal, and we inflated the IGB (Orbera, Apollo Endosurgery, USA) with 650 mL of normal saline and 1% methylene blue. We discharged her with proton pump inhibitors and anti-emetic medications. She tolerated the IGB well. However, at 7 weeks, she presented with severe vomiting, abdominal pain, and distension. Examination revealed a distended left upper abdomen with a palpable IGB (▶ Fig. 1). Laboratory analysis showed metabolic alkalosis (pH 7.44, bicarbonate 21.7mmol/L, potassium 3.7mmol/L). X-rays demonstrated a large air-fluid level, and massive enlargement of the IGB (~1437mL) compared with its original volume (▶ Fig. 2). Repeat endoscopy showed a hyperinflated IGB causing pyloric obstruction, with no visible signs of microbial colonization (▶ Fig. 3, ▶ Video 1). We punctured the balloon and aspirated the mid-stream fluid for microbiological assessment; we then removed the balloon. The specimen culture showed Candida parapsilosis. The symptoms resolved entirely after IGB removal, and no antifungal treatment was administered.

C. parapsilosis can grow in the presence of high saline concentrations and can produce gas by fermentation, resulting in IGB hyperinflation [3, 4]. The nutritive environment and slow gastric emptying after IGB placement may have promoted the rapid colonization of Candida [5]. Early recognition and IGB removal may prevent serious complications.

Competing interests

Dr. Gonrand Lopez-Nava is a consultant for Apollo Endosurgery, USA; USGI Medical, USA; and Nitinotes, Israel.

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Fig. 1 The patient presented with abdominal pain and distension at 7 weeks after intragastric balloon placement. Examination revealed a visible bulge in the left upper quadrant. The distended balloon was easily palpable.

Fig. 2 Erect and supine X-ray images showed a grossly distended intragastric balloon. A large air-fluid level can be appreciated. Calculation of the volume (4/3πr³) showed the balloon was approximately twice its original volume.

Fig. 3 Endoscopic view showed a distended balloon with an air-fluid level. The balloon was partially obstructing the pylorus and causing gastric outlet obstruction.
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Gontrand Lopez-Nava, MD, Ph.D., Ravishankar Asokkumar, MBBS, MRCP, Inmaculada Bautista, MD, Ph.D., Anuradha Negi, MBBS, MRCPI

Bariatric Endoscopy Unit, HM Sanchinarro University Hospital, Madrid, Spain
Department of Gastroenterology and Hepatology, Singapore General Hospital, Singapore
Department of Endocrinology and Metabolism, Khoo Teck Puat Hospital, Singapore

Corresponding author
Gontrand Lopez-Nava, MD, PhD
Bariatric Endoscopy Unit, HM Sanchinarro University Hospital, Calle de Oña, 10, 28050 Madrid, Spain
Fax: +34-91-7500203
glopeznava@digestivolopeznava.com

Video 1 Hyperinflated intragastric balloon causing pyloric obstruction.

References

* These authors contributed equally to this work.

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