CASE REPORT

Biliary obstruction secondary to migrated intra-duodenal gastric band: a case report

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Abstract

Adjustable gastric banding (AGB) was a previously popular bariatric procedure, but adverse events such as erosion have surfaced as common complications. We present an interesting case of an AGB causing biliary obstruction after eroding into the stomach.

INTRODUCTION

Obesity is one of the primary health concerns in developed countries around the world. The Centre for Disease Control and Prevention (CDC) published data in 2016 showing that more than one-third of adults in the USA are obese [1]. Along with the increasing prevalence of obesity has come a rise in Bariatric Surgery. The American Society for Metabolic and Bariatric Surgery (ASMBS) estimates the total number of bariatric surgeries in the United States has increased from 158 000 in 2001 to 228 000 in 2017, a near 45% increase in just 6 years [2]. There is mounting data to support long term weight loss with bariatric surgery, including the Longitudinal Assessment of Bariatric Surgery (LABS) study [3], which showed significant weight loss of up to 28.4% at Year 7 postoperatively. However, the benefit is not without risk. There is also a growing literature base of common complications, with each type of procedure having its own set of benefits and risks. Adjustable gastric banding (AGB) was a previously popular bariatric procedure, with complications that include pouch enlargement, slippage, port site infection, port breakage, intra-abdominal infection and finally erosion [4]. This article will discuss a rare case of erosion that resulted in biliary obstruction.

CASE

A 53-year-old female presented with 3/52 of intermittent epigastric pain, nausea and vomiting. This was predominantly post-prandial. On examination, observations were within normal limits, with mild RUQ tenderness. Her medical history was significant for a laparoscopically placed AGB 10 years prior, cholecystectomy 2 years prior and non-alcoholic steatohepatitis (NASH). Bloods revealed elevated bilirubin (53/31 umol/L), and elevated liver enzymes (ALP 219, GGT 476, ALT 450, AST 151 U/L). White cell count was 11.4, neutrophils 9.00.

An abdominal ultrasound revealed a dilated common bile duct (CBD) at 10 mm and mild prominence of the left sided intrahepatic duct. The distal CBD was obscured by bowel gas. Patient then proceeded to magnetic resonance cholangiopancreatogram (Fig. 1), which showed intraluminal migration of the gastric band causing obstruction at the ampulla of Vater.
She proceeded to a successful laparoscopic transgastric removal of the band. Postoperative recovery was unremarkable.

DISCUSSION

AGB was a previously popular bariatric procedure. From 2004 to 2007 there was a 329% increase in patients undertaking this procedure in the USA [5]. Unfortunately, among other issues, band erosion has surfaced as a relatively common late complication of this procedure, occurring in up to 7% of patients, with a median time to erosion of 22–33 months [6, 7]. Adoption of updated surgical technique (pars flaccida approach) seemingly drops the rate to 1% [6]. The suggested mechanisms that lead to erosion include:

- Trauma at initial insertion, particularly the dorsal serosa of the cardia (relatively unsighted intraoperatively)
- Chronic shear stress due to physiological movement of diaphragm and stomach
- Microperforations leading to chronic infection secondary to chronic shear stress
- Subacute pressure necrosis from chronic overinflation of the band
- Foreign body reaction [8]

It is likely that the pathogenesis of most erosions is multifactorial [8].

Gastric band erosion can manifest in a variety of ways, such as abdominal pain, obstruction, recurrent port infections/cellulitis, turbid fluid in port, and loss of restriction or weight gain [9]. However, up to 12% of patients can remain asymptomatic [10], as in this case.

Treatment involves removal of the band, and successful removal has been well documented by an endoscopic [10], laparoscopic (as in this case) and open approach.

Of note, although most patients convert to another type of obesity surgery (typically gastric sleeve or gastric bypass) in a staged manner, one study does report a series of 56 patients who had their gastric band successfully replaced after erosion. In this cohort 13 patients (15.3%) had a second erosion, and one patient had a third erosion [6].

CONFLICT OF INTEREST STATEMENT

None declared.

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