

## Peer Review File

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### Reviewer A

The manuscript is focused on an important issue which should be reiterated to the surgical community worldwide. It mentions the possible underlying pathological mechanisms and the debate around onset of oesophageal ADK in obese patients treated with a band. The manuscript describes the case accurately, with relevant images and intraoperative laparoscopic pictures. The authors should also be complimented for their thorough and systematic review work, including table 1.

However, the use of scientific English throughout the manuscript needs revision. There are grammar mistakes and the use of vocabulary is sometime inaccurate. The description of a minimally invasive oesophagectomy technique is non essential. The sequence of the paragraphs in the discussion is not completely coherent. The conclusion is ungrammatical and should stress on the manuscript message in a much clearer way.

It is a manuscript worth publishing in my opinion, following revision. The subject is relevant and important for the surgical community. It needs refinement.

**Reply 1:** Thank you for your comments and suggestions.

**1.1.** The English content of the manuscript has been revised by our official native English reviewer. However, therefore we performed another full review of the manuscript and corrected all mistakes.

Below we describe the changes in the text performed on the basis of your different suggestions:

**1.2.** *The description of a minimally invasive oesophagectomy technique is non-essential.*

#### **Changes in the text** (Case Report, paragraph 3-4)

The role of esophagectomy with curative intent was discussed with the patient and she accepted. A minimally invasive Ivor Lewis esophagectomy was performed. Extensive adhesiolysis was performed and gastric band was exposed (Fig. 2). Subsequently, the gastric band and the components of the subcutaneous port were removed. D1+ lymphadenectomy and hiatal dissection were performed. The Akiyama-type plastia was created by stapling along the lesser curvature of the stomach. It was not necessary to modify the normal procedure as there were no visible lesions caused by the band slippage. The distal end of the specimen was sutured to the gastric conduit to facilitate its delivery into the thoracic cavity (Fig.

3). The mobilization of the oesophagus was completed with a standard lymphadenectomy. An end-to-side intrathoracic circular stapled esophagogastric anastomosis was performed with anterior manual reinforcement (Fig. 4). A chest drain was placed.

**1.3.** *The sequence of the paragraphs in the discussion is not completely coherent.*

**Changes in the text:** Discussion has been modified considering all the reviewers remarks. The sequence of paragraphs in the discussion now is: 1) Problem introduction, 2) Mechanisms of cancer after LAGB, 3) Risk factors and etiology in our patient, 4) Review, 5) Diagnosis stage and importance of follow up, 6) Time to diagnosis and importance of study prior to bariatric procedures, 7) Management.

**1.4.** *The conclusion is ungrammatical and should stress on the manuscript message in a much clearer way.*

**Changes in the text:** Esophageal cancer following LAGB is a challenging problem. Band-related symptomatology might be considered for early endoscopic evaluation. Minimally invasive approach is a feasible option in the treatment of these patients.

#### **Reviewer B**

The case report is nicely written. However the literature review needs more input. There are only 15 cases reported in this article on literature review. They have quoted Parmar et al who have already reported 46 cases in the OGMOS paper. Their another most recent systematic review quotes 97 such cases after LAGB. (Parmar C, Pouwels S. Oesophageal and Gastric Cancer After Bariatric Surgery: an Up-to-Date Systematic Scoping Review of Literature of 324 Cases. *Obes Surg.* 2022 Dec;32(12):3854-3862)

The authors have done very poor work with regards to review of the literature. They quote only 15 cases. There are 97 cases published based on the most recent review.

**Reply 2:** Thank you for your nice comments on our job and for this useful remark. Table 1 has been modified accordingly. 97 cases of esophageal and gastric cancers after gastric band have been reported by Parmar et al. in their recent study. We have excluded gastric cancer in our literature review. We only have included the cases after LAGB and with the information detailed in Table 1. For example, Bevilacqua et al. or Tsui et al. include 8 cases after AGB but the information is not presented separately from the rest of bariatric procedures. However, we have added this information in the text.

**Changes in the text:** 46 cases of oesophageal neoplasms have been reported after gastric banding for morbid obesity. We focus our review on the reported cases with detailed management of oesophageal adenocarcinoma after gastric banding as unique treatment for morbid obesity (Table 1).

Table 1. Summary of cases reported with esophageal adenocarcinoma after gastric banding.

Author	n	Year	Time to diagnosis	Localization	Stage	Treatment
Snook (10)	1	2003	8	Lower esophagus	M1	Palliative CT+ stent
Hackert (11)	1	2004	10	Cardias	----	Palliative subtotal gastrectomy
Korswagen (12)	1	2009	2	Lower esophagus	M1	Palliative CT and RT for metastases
Stauffer (13)	1	2011	2	EGJ	N+	CT and non-curative surgery due to progression
Maret-Ouda (14)	4	2015	14 (8-21)	Not specified	T1N0M0 (n=2) T3N0M0 M1	CT + operative resection (not specified) CR + operative resection (not specified) Palliative
Burton (15)	4	2016	12.5 (9-14)	EGJ (n=1) Lower esophagus (n=3)	IV (n=3) III (n=1)	Palliative CT + Ivor-Lewis
Trautman (16)	1	2018	19	EGJ	----	CR + operative resection (not specified)
Lam (17)	2	2018	2,10	EGJ and lower esophagus	M1	Palliative CT+ stent
Gehwolf (7)	7	2018	14 (3-18)	EGJ (n=6)  Barret with LGD (n=1)	I,III IV	Ivor Lewis (n=3) Palliative treatment (n=3) RFA (Barret with LGD) (n=1)
Plat (5)	4	2021	12 (10-14)	Lower esophagus	T1N0 T3N0M0 M1 (n=2)	Endoscopic mucosal resection + RFA Neoadjuvant CR + Ivor-Lewis Conservative
EGJ; esophagogastric junction, LGD; low grade displasia, CR; chemoradiotherapy, CT; chemotherapy, RT; radiotherapy, RFA; radiofrequency ablation						

### **Reviewer C**

In figure 1 the first picture seems to be inverted, the second one is very nice; however, if it is not made by yourself you need to respect the rules of the copyright.

In figure 2 the quality of picture B is very low.

As technical aspect it would be of interest to know if you needed any modification of the gastric tube due to the lesions from the LAGB?

In the discussion is missing the fact that the general risk of cancer is higher in people with adipositas, the rate of reflux is as well augmented as another risk factor. A comparison to people with normal BMI and a comparison in the group with adipositas with and without LAGB would be nice. You blame the carcinogen containing food as risk factor, which is very special!

The last sentence of your conclusion is very good, the rest is further discussion than conclusion. You can't make the points with one case and very little other cases from some literature search.

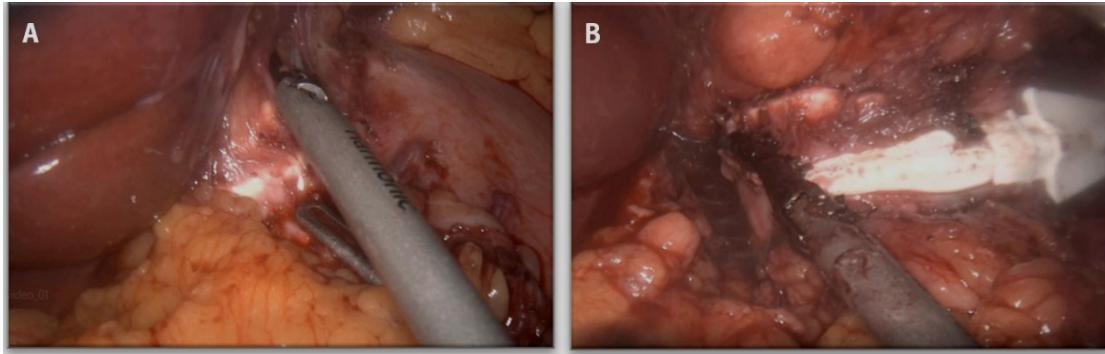
If the rules of copyright are not respected the manuscript is not publishable! In general the focus of the case report is weak.

**Reply 3:** Thank you for your remarks.

**3.1.** Figure 1 has been changed. We have selected other image of the contrast swallow study and we have removed part of the figure to avoid any copyright problem.



**3.2.** Figure 2 has been modified in order to improve quality.



**3.3.** *As technical aspect it would be of interest to know if you needed any modification of the gastric tube due to the lesions from the LAGB?*

**Changes in the text:** (Case Report, paragraph 4,3rd line)

The Akiyama-type plastia was created by stapling along the lesser curvature of the stomach. It was not necessary to modify the normal procedure as there were no visible lesions caused by the band slippage.

**3.4.** *In the discussion is missing the fact that the general risk of cancer is higher in people with adipositas, the rate of reflux is as well augmented as another risk factor. A comparison to people with normal BMI and a comparison in the group with adipositas with and without LAGB would be nice. You blame the carcinogen containing food as risk factor, which is very special!*

**Changes in the text:** (Discussion, paragraph 1)

Obesity is a well-known risk factor for the development of esophageal neoplasms due to its relationship with hiatal hernia formation and GERD. Bariatric surgery, on the other hand, is associated with weight loss and reduction of chronic reflux. Current evidence is limited but no differences in cancer incidence have been reported after bariatric surgery compared to non-surgically obese patients. In a recent review, most of the patients with cancer after bariatric procedures had a Roux-en-Y gastric bypass as the primary bariatric surgical procedure, followed by gastric banding.

**3.5.** *The last sentence of your conclusion is very good, the rest is further discussion than conclusion. You can't make the points with one case and very little other cases from some literature search.*

**Changes in the text:** (Conclusion). Esophageal cancer following LAGB is a challenging problem. Band-related symptomatology might be considered for early endoscopic evaluation. Minimally invasive approach is a feasible option in the treatment of these patients

#### **Reviewer D**

The manuscript titled “Esophageal adenocarcinoma after laparoscopic adjustable gastric banding: a case report and literature review” is a very well written and thought-provoking piece. It makes sense that band slippage leading to reflux disease can place the patient at risk for esophageal cancer. This patient was relatively young at the time of her cancer diagnosis. It would be interesting to know if these subsets of patients have additional risk factors for the development of esophageal cancer such as genetic mutations or tobacco use. The importance of long term follow up should be stressed to these patients. Any development of acid reflux, bloating or dysphagia should prompt endoscopic evaluation. I agree that the preferred surgical procedure should be a minimally invasive Ivor-Lewis esophagectomy.

**Reply 4:** Thank you for your nice comments on our job.

Obesity and band slippage were the risk factors that contribute to the development of an esophageal neoplasm in our patient, considering that she had no smoking habits, and no family history was reported.

**Changes in the text:** (Discussion, paragraph 3). However, other factors such as tobacco, alcohol, Helicobacter pylori infection or a personal or even family history of esophageal malignancies may contribute to the onset of this pathology in patients with normal BMI.

#### **Reviewer E**

Palomares et al. reported a case of esophageal adenocarcinoma after laparoscopic adjustable gastric banding. They successfully treated the case with endoscopic resection followed by minimally invasive Ivor Lewis esophagectomy. They also summarized the cases reported with esophageal cancer after laparoscopic adjustable gastric band. This manuscript may provide useful clinical information for readers. Several changes will improve the quality of this manuscript.

1. There is no information on whether the patient had undergone EGD prior to the symptom onset. Please describe the information.
2. The authors discussed the importance of EGD prior to gastric banding. However, as obesity is a well-known risk factor for esophagogastric adenocarcinoma, interval follow-up EGD after gastric banding seems to be also important. Please discuss this point.
3. Operation after gastric bypass surgery is considered to be more difficult than that after gastric banding. Please discuss the strategy in that situation.

**Reply 5:** Thank to the reviewer for this deep analysis of our work

**5.1.** Although the patient suffered from intermittent vomiting attacks, EGD was

not performed in the hospital where the patient was followed-up. Only a contrast swallow study was carried out that observed gastric pouch enlargement. Only when the patient became symptomatic with epigastric pain, dysphagia and repetitive vomits with a BMI of 33.1 kg/m<sup>2</sup> 12 years after the LAGB the EGD was carried out.

**Changes in the text:** (Case report, paragraph 1, sentence 2-3) Intermittent vomiting attacks that were relieved by deflating the band were the only symptoms reported. Contrast swallowing were the only tests performed to date.

**5.2.** The International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO) presented this position statement on the role of EGD after bariatric procedures. It insists on the importance of EGD after bariatric procedures not only when complications of the procedure appeared. The anatomical changes created at the time of some bariatric surgical procedures place patients at increased risk of GERD and theoretically place patients at a higher risk to develop upper gastrointestinal malignancy. Additionally, patient symptoms may not be a reliable guide for the development or progression of these diseases.

Based in a literature review, IFSO exposes that the correlation between symptoms and pathology appears to be high in the LAGB series; however, the lack of data in asymptomatic patients is a major potential cause of bias. On balance, it would seem reasonable that EGD only be offered to symptomatic patients after these procedures. We include this recommendation in the text:

**Changes in the text:** (Discussion, paragraph 5). Follow-up of patients with LAGB is essential. Unspecified symptoms commonly associated with bariatric procedures such as iron deficiencies, dysphagia or GERD and a suboptimal follow-up influence in the delay on cancer diagnosis. In this aspect, the IFSO suggests that an upper endoscopy should be performed after LAGB on the basis of upper GI symptoms.

**5.3.** Esophageal cancer in patients who have had a prior Roux-en-Y gastric bypass raise a challenging technical decision for the operating surgeon too. In our experience, a minimally invasive Ivor-Lewis could be performed, even more if gastric bypass was performed by laparoscopic approach. It would consist on excision of the distal esophagus and the gastric pouch. The remnant stomach would be fashioned into a gastric conduit and a thoracic esophagogastric anastomosis would be created.

**Changes in the text:** We have not added changes about this issue in the text because the limit of references has been reached. Please let us know if it is necessary.