

## Routine surveillance endoscopy before and after sleeve gastrectomy?

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### Abstract

There is no consensus when it comes to the necessity of an oeso-gastroduodenal fibroscopy (OGDF) before and after bariatric surgery. Many reports expressed the preoccupations about a gastroesophageal reflux disease (an acute risk of Barrett's esophagus) and its consequences after a sleeve gastrectomy (SG) and the risk of leaving a premalignant lesion in an excluded stomach after a Roux-en-Y gastric bypass. The International Federation for the Surgery of Obesity and Metabolic Disorders recommends a surveillance endoscopy, routinely after a SG. After review of the literature, we set out the arguments in favor of performing a systematic preoperative and post-operative OGDF.

**Key words:** Bariatric Surgery; Endoscopy; Sleeve gastrectomy; Surveillance; Oeso-gastroduodenal fibroscopy; Novo Barrett's esophagus; Gastroesophageal reflux

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**Core tip:** There is no consensus when it comes to the necessity of an oeso-gastroduodenal fibroscopy (OGDF) before and after bariatric surgery. After review of the literature, we set out the arguments in favor of performing a systematic preoperative and post-operative OGDF.

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## PRE-OPERATIVE OESO-GASTRODUODENAL FIBROSCOPY

There is no consensus when it comes to the necessity of an oeso-gastroduodenal fibroscopy (OGDF) before a bariatric surgery. Recommendations and practices are different from country to country and from unit to another one. Many reports expressed the preoccupations about a gastroesophageal reflux disease (GERD) (an acute risk of Barrett's esophagus) and its consequences after a sleeve gastrectomy (SG) and the risk of leaving a premalignant lesion in an excluded stomach after a Roux-en-Y gastric bypass (RYGB)<sup>[1,2]</sup>. Many monocentric studies reported a high rate of observations on pre-operative OGDF systematically realized for patients that will have a bariatric surgery (symptomatic or not). This rate varies from 62% to 67% with main diagnosis: hiatal hernia, gastritis and/or esophagitis<sup>[3]</sup>. These studies have concluded that a systematic OGDF is a crucial tool in the pre-operative evaluation of bariatric patients. However, reviewing the literature doesn't clarify many things in that matter and it hence pave the way to a debate. This debate is not always based on a data as itself, but rather on the interpretation of the data. For instance, on one side, Mihmanli *et al*<sup>[4]</sup> have found, in their review, that the initial surgery technique was changed for only 1 patient over 157. However the authors estimated that their results were important enough to recommend a systematic OGDF in the pre-operative phase. On the other side, Gómez *et al*<sup>[5]</sup> noticed that a routinely pre-operative endoscopy has changed the surgical procedures in 1.7% of the cases. They concluded, contrarily to the Mihmanli's team<sup>[4]</sup>, that a routinely endoscopy doesn't have an added value when it comes to treating and managing the case of bariatric surgery patients and that other screening methods should be explored. A recent meta-analysis on 48 quotes and 12261 patients presented similar information. The authors reported that the surgical care was changed for 0.4% of the patients, after eliminating controversial and benign results such as hiatal hernia, gastritis and peptic ulcer<sup>[6]</sup>. When the authors didn't take the eradication of *Helicobacter pylori* (*H. pylori*) as criteria, they've noticed that the medical care changed for only 2.5% of the patients. They have concluded that a pre-operative OGDF for asymptomatic and low risk patients should be optional rather than mandatory.

Saarinen *et al*<sup>[7]</sup> concluded that a pre-operative OGDF is recommended before a SG, but it is not mandatory before a RYGB for asymptomatic patients without any risk factor for gastric pathology (family history of gastric cancer, *H. pylori* infection, nonsteroidal antiinflammatory drugs usage, tabagism, age > to 50 years, kidneys, heart or lungs chronic diseases). The American Society for Gastrointestinal Endoscopy and the American Society for Metabolic and Bariatric Surgery defined some guidelines rooted from evidence-based medicine<sup>[8]</sup>. These guidelines stipulate that an OGDF should be realized for symptomatic patients and don't go further to the recommendation of a systematic pre-operative OGDF. Searching for *H. pylori* should not justify the realization of an OGDF. In fact, *H. pylori* are often diagnosed during an OGDF, but it can also be detected in fecal samples or with a respiratory test (13C urease). However, it is worth mentioning that *H. pylori* are considered as a major carcinogen, that's why every patient with a positive *H. pylori* test should have a surveillance post-operative OGDF. The coeliac disease can be detected with anti-transglutaminase antibodies. Hence, searching this disease should not justify the realization of an OGDF.

We recommend the realization of a systematic pre-operative OGDF. It is also interesting to have stomach cartography. An OGDF can detect disease such as *H. pylori*, esophagitis, hiatal hernia, tumors, *etc.*, and it can in addition to that examine the stomach before and after the surgery. In case of complaint, a patient can ask for the results of an OGDF, hence the OGDF has a medico-legal value. Patients with GERD should undergo a pre-sleeve pH and manometry test.

## POSTOPERATIVE ENDOSCOPIC SURVEILLANCE

The International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO) position is clear towards this matter. The IFSO recommends a surveillance endoscopy, routinely after a SG. The guidelines of the IFSO are: (1) SG is secure and

efficient metabolic procedure; (2) The presence of Barrett's esophagus is considered as a contra-indication for SG; (3) The presence of Barrett's esophagus or the severity of an esophagitis doesn't always correlate with the symptomatology degree; (4) In two different longitudinal studies, the novo Barrett's esophagus was found in the case of 15% to 17% of the patients without any correlation between the symptomatology and the endoscopy results; (5) Consequently, a pre-operative screening endoscopy and a surveillance post-operative one should be mandatory after one, three and five years after a SG and later each 10 years; and (6) The presence of a novo Barrett's esophagus after a Sleeve should lead to a more frequent surveillance and the conversion to a gastric bypass or other therapies<sup>[9-16]</sup>.

It is alarming to notice that the presence of novo Barrett's esophagus reached 15% to 17% after a SG and it seems that there is no correlation with the severity of GERD symptoms. The real occurrence is probably higher, but many symptomatic patients had already been converted to gastric bypass. It is necessary for us to define the seriousness of this problem knowing that the popularity of this procedure is increasing and patients are informed about the necessity of a surveillance endoscopy after a SG. We know that 3 cases of esophageal adenocarcinoma were reported after a SG<sup>[15]</sup>. Thus, we recommend a systematic post-operative OGDF 1, 3 and 5 years after the surgery and then depending on the OGDF results, based on the recommendations of the French Society for Digestive Endoscopy (2007, Seattle Classification). According to these recommendations, after confirming the diagnosis of Barrett's esophagus, a systematic cartography of the Barrett's esophagus should be realized according to the Seattle protocol. This biopsy protocol modalities depends of the Barrett's esophagus height: (1) in case of a short Barrett's esophagus (< 3 cm) or in strips: 2 to 4 biopsies each centimeter (1 tube per level) ; and (2) in case of a long Barrett's esophagus (≥ 3 cm): 4 quadratic biopsies each 2 cm (1 tube per level). To these systematic biopsies, it is recommended to add biopsies for any anomaly in the shape or color of the esophageal mucosa. In all the cases, the patient should be informed about this endoscopic surveillance and about the eventual risk of conversion to a Roux-en-Y bypass. Finally, we wish to specify that it is not a general consensus.

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