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VISCERAL SURGERY VIDEOS

# Robotic reoperation for gastro-gastric fistula after laparoscopic Roux-en-Y gastric bypass (with video)

Video Animation

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Gastro-gastric fistula (GGF) is a well-known complication after Roux-en-Y Gastric Bypass (RYGBP) with an incidence ranging from 0 to 6% [1]. Weight regain and epigastric pain, are the most common symptoms. An upper gastrointestinal (UGI) contrast study (± CT scan with ingestion) combined with an endoscopy is used to make the diagnosis. Some GGF may be treated endoscopically but with poor results [2], especially for those type II GGF, located in the distal part of the gastric pouch less < 2 cm above the gastrojejunostomy [3]. In these re-operative cases, robotic assistance may provide great benefit for both surgeon and patient in comparison with conventional laparoscopy.

This video shows the case of a 48-year-old woman with past medical history of laparoscopic RYGBP (LRYGBP) for class III obesity (initial BMI 53 kg/m$^2$), associated with obstructive sleep apnea syndrome and type 2 diabetes. Because this patient complained about weight regain and epigastric pains, an upper gastrointestinal endoscopy was performed. This endoscopy showed an abnormal communication between alimentary limb, at the level of gastrojejunal anastomosis and the excluded stomach. An UGI contrast study was performed and confirmed a Type II GGF. It was decided in this case to perform a totally robotic revision of the LRYGBP using the robotic platform. This video shows the different steps necessary to perform this re-operation. Six ports were necessary and placement was shown in Fig. 1. The robot was docked and positioned at the patient's left shoulder. The different steps were careful adhesiolysis, en-bloc resection of the gastrojejunostomy, which allowed the exposure of the fistula. A stapling of gastric pouch and excluded stomach were then performed. Closure of the fistula on the excluded stomach was completed using

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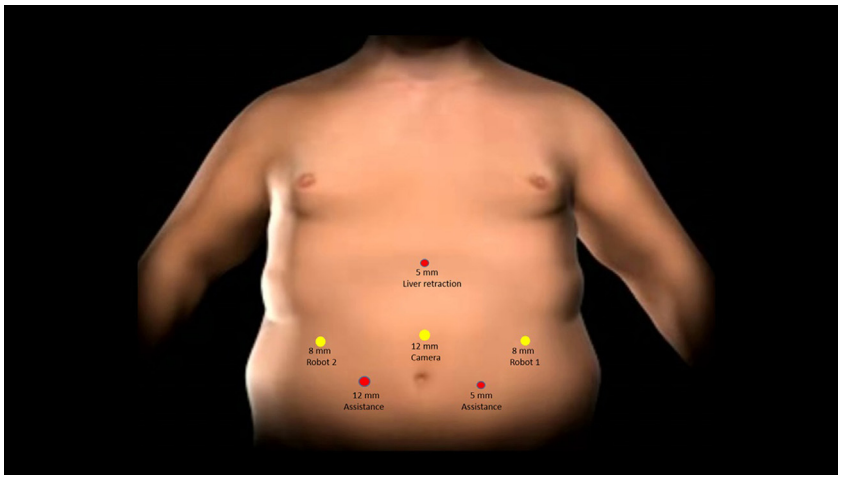


**Figure 1.** Ports disposition for robotic access.

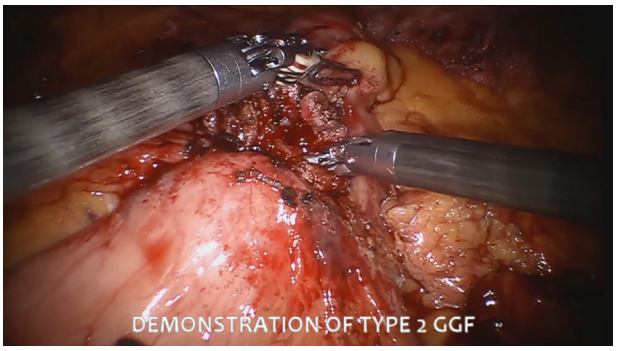


**Figure 2.** Demonstration of the type II GGF after en-bloc resection of the gastrojejunostomy.

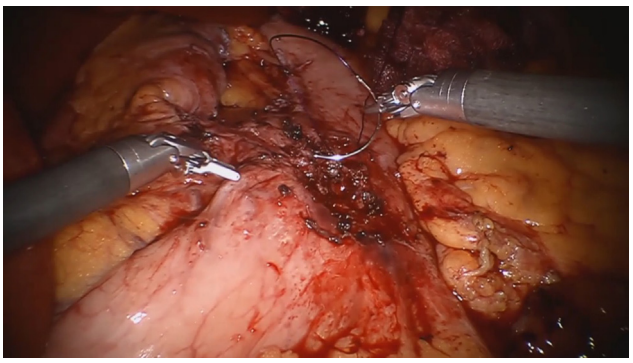

**Figure 3.** Closure of the fistula on the excluded stomach side.

a continuous barbed suture with epiploplasty. Lastly, a new gastrojejunal anastomosis was performed hand-sewn in one full-thickness layer, in a running fashion using an absorbable barbed suture and fibrin sealant application. The operative time was 105 minutes. Postoperative course was uneventful. An UGI contrast study was performed at day 1 and the patient was discharged at day 3. Robotic platform, in those redo procedures, could provide greater comfort and precision to the surgeon, and may offer to patients the benefits of a mini-invasive surgery with greater security. However, this remains to be validated in future studies comparing robotic approach and laparoscopic approach in bariatric surgery. This video is useful for all surgeons having to manage a patient with a gastro-gastric fistula after Roux-en-Y gastric bypass (Figs. 2—4).

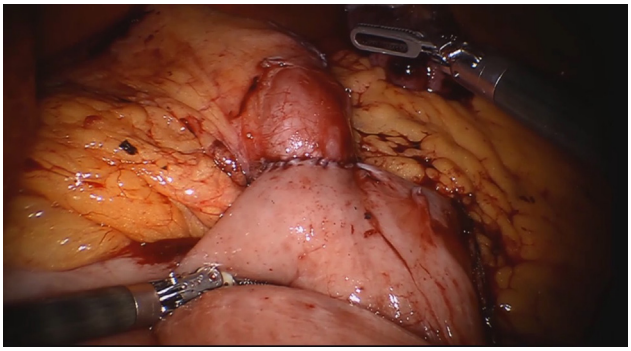

**Figure 4.** Final aspect after revisional surgery and creation of a new gastrojejunostomy.

## Ethical approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

## Informed consent

Informed consent was obtained from all individual participants included in the video.

## Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at https://doi.org/10.1016/j.jviscsurg.2019.01.008.

## Disclosure of interest

The authors declare that they have no competing interest.

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