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VIDEO SUBMISSION

Umbilical Single-Port Sleeve Gastrectomy as a Standardized Procedure: How to Do It? (Video)

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Abstract

Background Laparoscopic sleeve gastrectomy is the most common bariatric procedure worldwide, commonly performed using laparoscopic multiport. Feasibility and safety of single-port sleeve gastrectomy (SPSG) have been proved. We reported a standardized procedure describing the different steps as a reference for bariatric surgeons.

Materials Two news concepts are necessary: "surgical corridor," surgeon working in a small intraperitoneal area is less disturbed by excess abdominal fat and liver hypertrophy; "parietal space" is the area in the abdominal wall through the instruments are introduced, it's important to preserve this.

The patient was placed in a seated position and we utilized 2.5–3 cm skin incision in the umbilicus. Single trocar was placed; a flexible camera and double curve grasper are needed to decrease grasper conflict. Dissection of the stomach was obtained by 47 cm Thunderbeat (Olympus-Japan), the sleeve of the stomach was created over a 36F calibrator. A 60-mm roticulating XL staplers were used and beginning 4 cm proximal to the pylorus next to the gastro-pancreatic ligament and heading toward the left side of the gastro-esophageal junction. We utilized a linear staple line using 4 to 7 staples; hemostasis is controlled by bipolar coagulation.

Results Specimen was removed easily through the single-site trocar. Parietal defect is easily repaired. Operating time is 41 min. The patient was discharged at day 1 without naso-gastric tube or drainage. No complication.

Conclusion Umbilical SPSG is nowadays a standardized procedure based on the surgical corridor and the parietal space. This is a safe and reproductive procedure applicable in most patients with massive obesity but necessitate learning curve.

Keywords Obesity · Sleeve · Single port · Umbilicus · Minimaly invasive surgery

Objective

Laparoscopic sleeve gastrectomy is the most common bariatric procedure worldwide, commonly performed using laparoscopic multiport. Feasibility and safety of single-port sleeve gastrectomy (SPSG) have been shown but remains technically difficult [1]. We standardized sleeve gastrectomy single port in July 2010 to become the technical reference in our team since 2011 [1]. Today, more than 85% of patients are operated by an umbilical incision, in our team, according to anatomical criteria described in this video that whatever the BMI [2]. We reported a standardized procedure describing the different steps as a reference for bariatric surgeons.

Material and Method

Informed consent was obtained from the patient included in this video. Before embarking on the practice of this new approach, the surgeon must integrate two new concepts specific to single-port surgery in our practice [2]:

- *The parietal space*: space in which all the instruments are introduced, this notion is directly related to the problems of conflict between instruments. It must be optimized

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according to the patient and local conditions. As in laparoscopy, a misplaced incision adds difficulties to the gesture. It is also essential to use adapted equipment (flexible camera, Alexis retractor trocar, double curvature forceps). For example, the use of a trocar with a system comprising an Alexis retractor is essential because it minimizes the depth and maximizes the width of the parietal space;

- *The surgical corridor*: space in which the surgeon works in the peritoneal cavity. By definition, the surgeon using a single trocar works in a small corridor and therefore does not need to take off or dissect the entire peritoneal cavity. The axis of this corridor is determined by the orientation of the largest instrument. Some interventions are not suitable for routine use of the single trocar. For example, cholecystectomy which requires spacing and divergent exposure is more dangerous in single trocars.

In this context, longitudinal gastrectomy is perfectly adapted to the use of a single trocar: obese patients, therefore more fragile, a simple axis of work, a dissection space restricts the need for the extraction of the gastric piece. This recent technique requires skills and training for the use of new instruments (double curvature) and flexible optics. This practical training is currently limited by the scarcity of training centers. Only a few teams routinely perform single-course procedures.

The patient was placed in a seated position. Access was utilized a 2.5–3 cm skin incision in the umbilicus. The multiport single trocar was then placed within the abdominal cavity; the flexible scope allows initially exploring the peritoneal cavity. A flexible camera and double curve grasper are needed to decrease grasper conflict. The dissection of the stomach was obtained with section and coagulation of right gastro-omental vessels around the stomach and short gastric vessels by 47 cm Thunderbeat® (Olympus- Japan), the sleeve of the stomach was created over a 36F calibrator. A 60-mm long endoscopic reticulating staplers were used and beginning 5–7 cm proximal to the pylorus next to the gastropancreatic ligament and heading toward the left side of the gastroesophageal junction. At the end, we utilized a linear staple line using 4 to 6 staples, hemostasis is controlled by bipolar coagulation.

Results

The specimen was removed easily through the single-site trocar. Parietal defect is repaired with continuous suture. The patients were discharged from the hospital at day 1, without a naso-gastric tube or drainage. For this patient, the operative time was 41 min and no complication.

Conclusion

Umbilical single-port sleeve gastrectomy is nowadays a standardized procedure [2, 3]. This new technic is based on new notion: surgical corridor and the parietal space. But a learning curve is needed to teach the technic and we publish the feasibility for superobese patients [4]. SPSG is now, after learning curve, a safe and reproductive technic applicable in most patients whatever the BMI.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Ethical Approval Statement This is a retrospective video: for this type of study, formal consent is not required in France.

Informed Consent Statement Informed consent was obtained from the patient included in this video.

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