

Nutritional approach in late gastric stenosis after gastric sleeve

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INTRODUCTION

Laparoscopic gastric sleeve (LGS) is a very frequent used procedure nowadays in Romania, with more than 100,000 reported patients operated until now, the most part of patients being operated in private settings. It is a simple and efficient procedure, less expensive than gastric by-pass, with fewer complications, but can reduce obesity complications almost as well as gastric by-pass. Indications for this type of surgery are:

- Body Mass Index is greater than 40 kg/m² or between 35-40 kg/m² and patient has significant pathology that may benefit from weight loss-like diabetes, hypertension
- Severe co morbidities (cardiac, pulmonary, liver disease)
- Advanced age at time of operation
- Inflammatory bowel disease (Crohn's disease)
- Patient uses chronic medications (anti-inflammatory or immunosuppressive)
- Need for continued surveillance of the stomach (that couldn't be evaluated after a gastric bypass)
- Severely enlarged liver found during the operation
- Severe adhesions or scarring to the bowel found during the operation
- Any combination of the above that significantly increases the patient's anesthetic or surgical risk

LGS may be used also combined with gastric by-pass done at 12-18 months after LGS, when anesthesia is less risky and liver has reduced diameters.

Acute complications are represented by hemorrhage reported in 1-6% of cases and gastric leaks in up to 5% in the immediate period after operation (1). Gastric stenosis has a 0 to 4 % rate of appearance for this type of operation(4). Most cases can be solved by endoscopic dilation with balloons; however some cases need to be converted to gastric by-pass.

In an article from 2014, in a study done on 565 patients, the incidence of complications was relatively low- the authors(2) reported in 7.79% of patients infarcts of the posterior pole of the spleen, 1.42% gastric fistulas in the His angle region, with 5 deaths among these patients – 3 due to septic complications in the course of fistula, 1 due to encephalopathy and 1 as a result of myocardial infarction.

Chronic complications include strictures, malnutrition and GERD. Chronic strictures usually require further intervention. Endoscopic dilatation is an useful tool used for short segment stenosis. Successive treatments in 4 to 6 weeks interval are adequate to treat stricture and ameliorate patient symptoms. In contrast, long segment stenosis and failure of endoscopic management demands a surgical intervention – laparoscopic or open seromyotomy or conversion to Roux-en-Y gastric bypass. Parikh and colleagues reported an incidence of 3.5% of symptomatic stenosis following LGS in their series of

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230 patients; 2 patients required conversion to a Roux-en-Y gastric bypass owing to failure of endoscopic management.

In a recent study by Gehrler and colleagues(3), the prevalence of vitamin B12, vitamin D, folate, iron and zinc deficiency were reported to be 3%, 23%, 3%, 3% and 14%, respectively, after LGS. In general, these investigators found micronutrient deficiencies to be less prevalent after LGS than Roux-en-Y gastric bypass; however, folate deficiency was slightly more common after LGS than Roux-en-Y gastric bypass (22% vs. 12%).

CLINICAL CASE

Our patient, a 25 years girl operated – LSG-1 year before, presented with severe malnutrition and dehydration, associating also hypokaliemia. She has been vomiting at least 4 times a day during the past 6 months and she lost almost 100 kg in 1 year (from 130 Kg, 167 cm to 37 Kg at admittance). She has done upper endoscopy 10 days ago and dilation of gastric stricture was not possible. She was told she needed operation after gaining 10 kg.

She was very pale, with brittle hair and dry skin, with Bichat's sign positive, hypotensive – 70/50 mmHg, tachycardic and refused admittance even if she was explained that she had a very high risk of death. She agreed to come and stay in hospital after solving the problems for her job. As she associated hypokaliemia we tried to correct it with 20 mEq of kalium in saline, but patient reported intense pain on peripheral i.v. infusion, so we used first 1 l of saline, and then Ringer and Kalium progressively.

Family reported repeated episodes of binge eating at home with ingestion of Coke and high amounts of food, after that unprovoked vomiting. Discussion with patient revealed also depression, this kind of food pattern was the patient's cry for help due to unresolved adolescence trauma, even if she had

family and friends support now. We tried also to relieve the pressure from job.

Next day iv saline 500 ml, Ringer 1000 ml, Kabiven were introduced, with almost complete correction of hypokaliemia. As patient had urinary tract infection we added Gentamycin 320 mg/day and Ciprofloxacin 400 mg/day, for seven days, with good evolution.

Third day we introduced Fresubin – enteral formula – 500 ml/day, divided in 7-8 meals, no more than 100 ml/meal, associated with Osetron and Controloc on i.v. line. Patient stopped vomiting the third day and the next day we introduced small amounts of baby food – milk and egg, fruits puree, small amounts of soup with chopped meat.

By seventh day patient gained enough weight so we tried to reduce the amount of Fresubin and Kabiven and leave her on oral intake of mashed food, but this induced reappearance of vomiting. X-ray revealed no passage of barium due to complete gastric stenosis, so i.v. nutrition was resumed.

Laboratory 8 a.m. serum cortisol was more than 10 mcg/dl, so we excluded Addison disease. Patient had low TSH and low T3 levels – confirming sick euthyroid syndrome and hypothalamic amenorrhea with low Estradiol levels – 17 pg/ml.

In the last 3 days we introduced small amounts of rapid insulin – 10 U/day to improve anabolism. Patient reached 47 kg, with mild edema in the legs and was discharged in the 12th day of admittance. She still has mild hypoproteinemia – albumin 3.2 mg/dl, total proteins 5,6 g/dl and mild hypocalcemia – 8.8 mg/dl. She was discharged with proton pump blocker and prokinetic treatment, associated with buvable ferrum sulfate.

She repeated the endoscopy and was converted to gastric by-pass after 3 days without more complications.

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