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Original Article

ARE THERE BENEFITS IN PERFORMING GASTRO-OMENTOPEXY IN LAPAROSCOPIC VERTICAL GASTRECTOMY?

Há benefícios em realizar gastro-omentopexia na gastrectomia vertical laparoscópica?

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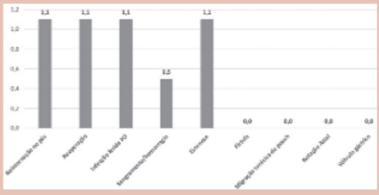
ABSTRACT - ***Background*:** Gastro-omentopexy promotes the reconnection of the stomach to the gastroesplenic and gastrocolic ligaments and constitutes an alternative for the prevention of complications in laparoscopic vertical gastrectomy. ***Aim*:** To demonstrate the benefits of the gastro-omentopexy technique in patients undergoing sleeve gastrectomy, with possible reduction in postoperative complications. ***Methods*:** Prospective, non-randomized, case series type study, consisting of a clinical population of 179 patients who underwent the technique in 2018, with follow-up between 6-12 months in the postoperative period. ***Results*:** From the participants 71.5% were women, aged between 30-40 years (36.3%). As for the prevalence of complications in the postoperative period, the low prevalence was evident, with emphasis on readmission (1.1%); reoperation (1.1%); wound infection (1.1%); bleeding hemorrhage (0.5%); and stricture (1.1%). However, temporary symptoms were present such as nausea/vomiting, food intolerance, epigastric pain and feeling of fullness, right after surgery. ***Conclusion*:** The technique promoted a significant improvement in quality of life and control of comorbidities. In addition, it was associated with a low prevalence of stenosis, and with no fistula, making the method safer.

HEADINGS: Obesity. Bariatric surgery. Postoperative Complications. Weight loss. Quality of life.

RESUMO - ***Racional*:** A gastro-omentopexia promove a reconexão do estômago aos ligamentos gastroesplênico e gastrocólico e pode constituir alternativa para prevenção de complicações na gastrectomia vertical laparoscópica. ***Objetivo*:** Demonstrar os benefícios da gastro-omentopexia em pacientes submetidos à gastrectomia vertical laparoscópica com redução de complicações. ***Métodos*:** Estudo prospectivo, não randomizado, do tipo série de casos, constituído por população de 179 pacientes que realizaram a técnica, com acompanhamento entre 6-12 meses no pós-operatório. ***Resultados*:** Dos participantes 71,5% eram mulheres, com faixa etária entre 30-40 anos (36,3%). Quanto às complicações no pós-operatório evidenciou-se baixa prevalência delas com destaque para reinternação (1,1%); reoperação (1,1%); infecção de ferida (1,1%); sangramento/hemorragia (0,5%); e estenose gástrica (1,1%). Entretanto, surgiram sintomas temporários como náusea/vômito, intolerância alimentar, dor epigástrica e sensação de plenitude, logo após a operação. Houve melhora nas variáveis de qualidade de vida analisadas. ***Conclusão*:** A técnica promoveu melhora na qualidade de vida e no controle das comorbidades. Além disso, esteve associada à baixa prevalência de estenose, e sem ocorrência de fístula, tornando o método mais seguro.

DESCRITORES: Obesidade. Cirurgia bariátrica. Complicações pós-operatórias. Perda de peso. Qualidade de vida.



Postoperative complications

Central message

The use of the gastro-omentopexy technique in laparoscopic sleeve gastrectomy was associated with a low prevalence of complications such as bleeding/hemorrhage, stenosis and absence of others, as fistula, therefore increasing the safety of patients in the postoperative period.

Perspective

The gastro-omentopexy technique promotes the reconnection of the stomach to the gastrosplenic and gastrocolic ligaments, essential for its fixation in the abdominal cavity, thus preventing possible complications in laparoscopic sleeve gastrectomy. In general, this technique is simple and inexpensive, promoting significant results in improving quality of life and comorbidities.

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INTRODUCTION

Laparoscopic sleeve gastrectomy is a surgical technique for the treatment of obesity based on the construction of a gastric tube from the resection of the fundus, part of the body and the gastric antrum; it does not have anastomoses and is mostly restrictive[15]. It has shown good results, becoming the fastest growing bariatric procedure in the USA, and the second most performed in the world, corresponding to 37% of the total[3].

Sleeve gastrectomy has advantages such as preservation of the gastroduodenal transit and lower risk of nutritional deficiency; however, some postoperative complications can be evidenced, as its performance promotes the disconnection of the gastric tube from the fundamental ligaments for its fixation, such as the gastrosplenic and gastrocolic. Thus, the remnant stomach becomes more susceptible to a reduction in the diameter of the lumen, causing symptoms such as gastric stasis, gastroesophageal reflux, heartburn and regurgitation[24]. In addition, axial rotation may occur, leading to stomach angulation, triggering an increase in intraluminal pressure and the appearance of stenoses, predisposing to the development of fistulas[1,6,9,10,23].

Considering that the absence of fixation of the stomach may determine such complications, gastro-omentopexy has been recently discussed as one of the probable preventive measures[10,23]. This technique promotes the fixation of the gastric remnant to the gastrosplenic and gastrocolic ligaments in order to reduce the mobility of the gastric pouch, preventing axial rotation, gastroesophageal reflux disease, hiatal hernia or intrathoracic migration of the gastric pouch. However, there are still few studies in the scientific literature that prove its effectiveness.

The present research sought to demonstrate benefits of performing gastro-omentopexy during laparoscopic sleeve gastrectomy, with possible reduction of complications and improvement in postoperative quality of life.

METHOD

All participants were informed about the research and signed the informed consent form. This study was approved by the Research Ethics Committee of the Health Sciences Center of the Federal University of Pernambuco (CEP/CCS/UFPE), in accordance with Resolution nº 466/12, of the National Health Council, with opinion nº 3.328. 904, under CAAE No. 11737319.0.0000.5208.

This research was prospective, non-randomized, case series, consisting of a population of 179 patients who underwent sleeve gastrectomy with the laparoscopic gastro-omentopexy technique. All those submitted to it from January to December 2018 in Recife, PE, Brazil were included. The selection of patients followed traditional criteria, such as body mass index (BMI) above 40 kg/m^2 or above 35 kg/m^2 associated with comorbidity and age over 18 years.

Operative technique

The performance of gastro-omentopexy begins with the release of the entire greater gastric curvature through the section of the gastrocolic ligament (near the pylorus), followed by the gastrosplenic; the gastrophrenic ligament is not released. After these releases, the 32-degree Fouchet probe is introduced into the stomach in order to avoid stenosis and guide the staple diameter. The stomach is divided using a 60 mm laparoscopic stapler, the first stapling starts about 3 cm from the pylorus, followed by more shots in the cephalic direction, up to 1-2 cm from the esophagogastric angle. Once the stapling process is completed, the fixation of the entire staple line in the gastrocolic and gastrosplenic ligaments begins, using barbed wire (Stratafix® Ethicon Inc., Somerville, NJ). The staple line of the first 5 cm of the proximal portion of the gastric tube is invaginated with continuous suture. The invaginating suture aims to adjust the diameter, strengthening the region and thus avoiding complications such as fistulas, more common in the proximal portion. Stitches applied to the ligaments are carefully placed in order to avoid vascular damage to the gastro-omental vessels, which pass through the greater curvature of the stomach.

Patients were contacted by telephone to return to consultation, where a structured questionnaire prepared by the researchers was applied, with the following variables: gender, age group, marital status, pre- and postoperative BMI, degree of satisfaction with the weight loss. Follow-up took place between 6-12 months of the postoperative period. The questions regarding quality of life were based on the BAROS protocol questionnaire - Bariatric Analysis and Reporting Outcome System (self-esteem, physical exercise, work motivation, social relationships and sexual interest)[18]. The presence/absence of comorbidities (diabetes, hypertension, reflux, heartburn/heartburn/burning, regurgitation, nausea/vomiting, pain in the epigastrium or chest, feeling of fullness, cough or dysphagia) and the symptoms of reflux in preoperative and postoperative moments, the presence/absence of postoperative complications (rehospitalization, reoperation, surgical wound infection, bleeding/hemorrhage, stenosis, fistula, thoracic pouch migration, axial rotation, gastric volvulus and leaks in the staple line).

Statistical analysis

The database was built using Microsoft Excel 2010 and exported to SPSS 13.0 (Statistical Package for the Social Sciences) software for Windows. Data were analyzed through the construction of tables and graphs, with their respective absolute and relative frequencies. The chi-square test used for comparisons between proportion/percentage was applied to verify the existence of a comparison between categorical variables in quality of life (satisfaction with weight, self-esteem, physical exercise, work motivation, social relationships and sexual interest) and comorbidities (diabetes, SAH, heartburn, regurgitation, nausea/vomiting, crushing, pain in the epigastrium/chest, feeling of fullness and coughing). In the analysis of repeated measures (moments: preoperative, postoperative and current), the mixed linear regression model was used, which takes into account the possible correlation between the values of the response variable that constitute repeated measures. All tests were applied with 95% confidence and conclusions were obtained considering a significance level of 5% and 95% strength of truth (p=0.05).

RESULTS

A total of 179 patients were evaluated, of which 71.5% were women, with a predominance of the age group between 30-40 years (36.3%). There was a low prevalence of postoperative complications, especially readmission (1.1%); reoperation (1.1%); wound infection (1.1%); bleeding/hemorrhage (0.5%) and stenosis (1.1%). Other complications such as fistula, thoracic bursa migration, axial rotation and gastric volvulus were not present in the study population (Figure 1).

Regarding the prevalence and evolution of comorbidities in the pre- and postoperative periods, there was a reduction in the rates of diabetes (0.6% postoperatively vs. 15.6% preoperatively); hypertension (4.5% postoperatively vs. 36.3% preoperatively) and heartburn (26.3% postoperatively vs. 51.4% preoperatively). However, there was an increase in symptoms such as nausea/vomiting, crushing, pain in the epigastrium/chest and feeling