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Carta ao Editor

BARIATRIC SURGERY (SLEEVE GASTRECTOMY) AFTER LIVER TRANSPLANTATION: CASE REPORT

Cirurgia bariátrica (gastrectomia vertical) após transplante hepático: relato de caso

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DISCUSSION

Currently the author has treated 10 such cases with complete resolution in all no later than 60 days after the start of endoscopic treatment.

The proposed combination - dilation and septotomy with argon - unlike other services of bariatric endoscopy over the country, allows earlier resolution of post-sleeve gastrectomy fistulas, thus reducing the length of hospital stay, the need for enteral nutritional support or prolonged parenteral nutrition, as well as the need for reoperation and the risk of unfavorable outcome. The author do not makes the opening of the fistula before the 30th postoperative day, because before this time there is the possibility of inexistence of healing blockage of the fistula area and the risk of penetration into free abdominal cavity with endoscopic devices. Generally with the more "forced" dilations mucosal laceration may occur, but with only minor bleeding, not requiring hemostasis.

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INTRODUCTION

Obesity is a major public health problem worldwide; a quarter of the world's population is in the range of overweight and 10% are considered obese. In Brazil, half the population is overweight (BMI>25 kg/m²) and 17.5% is obese (BMI>30 kg/m²)¹. Bariatric surgery is the most effective method of treatment of severe or morbid obesity (BMI>40 kg/m² or BMI>35 kg/m² with comorbidities), presenting superior results with respect to weight loss, control of comorbidities, improved quality of life and survival compared to medical treatment². Hepatobiliary complex interventions in severely obese patients are associated with increased risk of bleeding, postoperative complications and mortality, due to the technical difficulty (exposure) and higher incidence of clinical comorbidities³.

do septo mucoso entre a cavidade abscedada peri-bolsa gástrica e a própria luz do órgão (septotomia ou septoplastia ou "drenagem endoscópica interna"). Ela foi realizada com catéter de argônio a 2 l/m e 90 w, afim de evitar sangramento desta área inflamada e hipervascularizada (Figura 3). O dreno que comunicava a cavidade peri-bolsa com a pele foi retirado no mesmo procedimento por considerar-se epitelizado o trajeto fistuloso pelo tempo de evolução da fistula. A dieta líquida foi iniciada em 24 h.

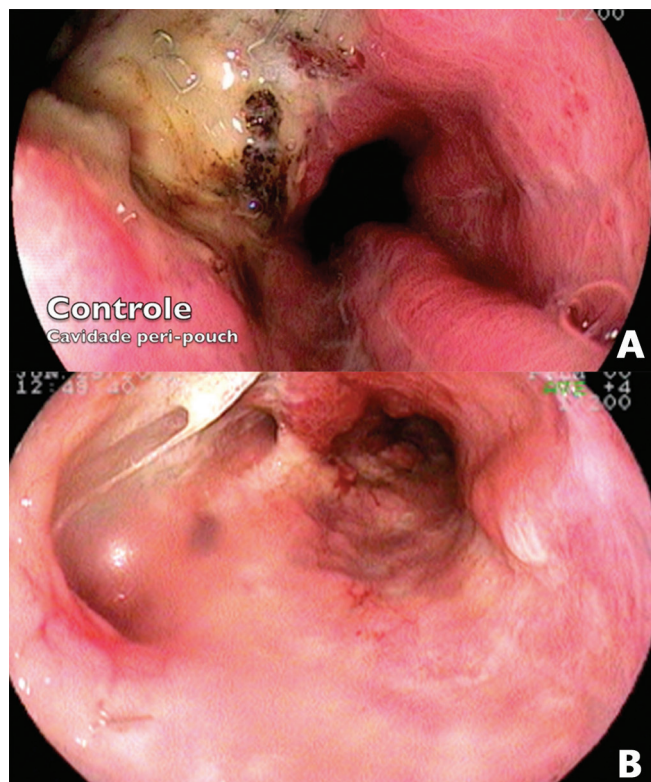


FIGURE 3 - Evolution of the healing process: A) initial appearance after septotomy with complete opening; B) final appearance in endoscopic control on day 30 post-septotomy

Endoscopic control was done after five days for completion of septoplasty with argon, observation of the incisura angularis and if the gastric pouch axis was already rectified. The fistula stopped draining to the skin on the 7th day after the start of endoscopic treatment. The pre-endoscopic cavity formed by the fistula had its full resolution at 30 days (Figure 3), although the patient already carry out her activities and feeding with no problems.

Morbid obesity is a relative contraindication to liver transplantation for the same reasons. Furthermore, long-term survival of transplanted obese patients is also reduced. Nevertheless, in the United States, 7% of patients undergoing liver transplantation are obese⁴. Some centers determine BMI less than 35 as a precondition for liver transplantation⁵. Furthermore, up to one third of patients undergoing liver transplantation become obese within three years postoperatively. The factors associated to this phenomenon are: sedentary lifestyle, improvement of appetite, change in eating habits (abandonment of the pre-transplant rigid diet), history of obesity and use of immunosuppressant, particularly corticosteroids⁶. Part of these individuals may become morbidly obese, and in some cases the development of steatosis in the transplanted liver, may even compromise the function of the graft. In this situation there is also an increase in the incidence of other comorbidities, such as type II diabetes. Patient education and dietary treatment are the key measures of prevention and treatment of obesity after liver transplantation⁷. In some situations, bariatric surgery may be indicated in order to delay or inhibit this evolution. There are few studies on the surgical treatment of morbid obesity after liver transplantation, all made in small series^{8,9,10}.

Here is reported the case of one patient who underwent a laparoscopic sleeve gastrectomy 15 months after orthotopic liver transplantation, who developed stenosis of the biliary anastomosis and weight gain postoperatively.

CASE REPORT

Female of 33 years old with a history of obesity since childhood, was submitted in December 2012 to a liver transplant by piggyback technique, cadaver donor for autoimmune hepatitis and hepatitis C. The MELD score was 31; the patient had ascites and was admitted for treatment of spontaneous bacterial peritonitis and clinical compensation for two weeks prior to the transplant. In the day before the transplantation, she has shown little swelling, her weight was 106 kg, height 1.69 m and BMI 37.1 kg/m². She received 10U of cryoprecipitate, 10 platelet apheresis and 650 ml of autotransfusion through the cell saver. The early postoperative outcome was without any clinical or surgical complications. In the late postoperative period (after three months) she started to gain weight, reaching 134 kg after 10 months (BMI=47 kg/m²), associated with onset of hypertension and type II diabetes. She has received dietary counseling, managing to reach 112 kg (BMI=39 kg/m²) and stabilizing at that level, with partial improvement of diabetes and hypertension (still in need of medication for the treatment of both). Concomitantly, the patient developed stenosis of the biliary anastomosis, initially treated by percutaneous external drainage and later by combined internal and external drainage (rendezvous). For the definitive treatment of the biliary stenosis, a choledochal-jejunal anastomosis was proposed. Due to the degree of obesity presented by the patient, presence of comorbidities and risk of reoperation on the biliary tract in obese patients, bariatric surgery was proposed, so that the patient could have good weight loss, better control of comorbidities and better surgical conditions for the revisional procedure on the bile duct. After 15 months of transplantation, the patient underwent a laparoscopic sleeve gastrectomy. The operation began by lysis of adhesions and the separation of the left lobe of the liver, firmly attached to the anterior wall of the stomach (Figure 1). Stapling was started at 4.0 cm from the pylorus, and a 32 Fr "bougie" was used for calibration. Was used green cartridge for the first staple line (Ethicon®), gold for the second and blue in three subsequent shots (five in total, all 60 mm). Oversuture of the staple line was held with Vicryl® 2.0 line, a distance of about 5 cm from the esophagogastric angle, and thereafter continuous transfixing suture of the staple line (hemostatic) until

the end of it (Figure 2). Was performed fixation of the omentum along the staple line with the objective of reducing adhesions and help prevent rotation of the stomach and drained the cavity with silicone tube. The surgical time was 120 minutes, anesthetic time of 150 minutes. There was no need for transfusions and the patient had a good postoperative course. The abdominal drain was removed on the 7th day after radiological evidence of the absence of fistula. There was good food adaptation and resumption of oral immunosuppressive medication from the 2nd postoperative day. The patient has lost 30 kg during the first 150 days post-operatively, which represented 75% of excess weight. There was good control of diabetes and hypertension, with discontinuation of medication for both. There was no change in liver function throughout evolution, so far. The definitive treatment of the biliary stenosis through biliary-digestive anastomosis is now being programmed.

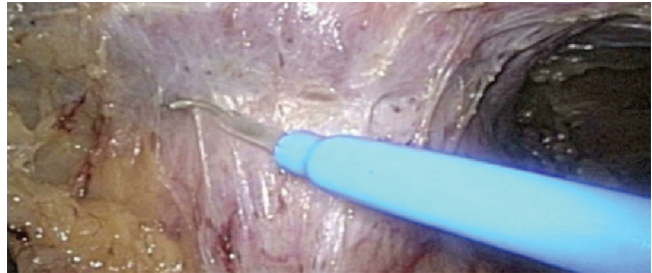


FIGURE 1 – Aspect of the adhesions of the left lobe of the liver to the anterior gastric wall

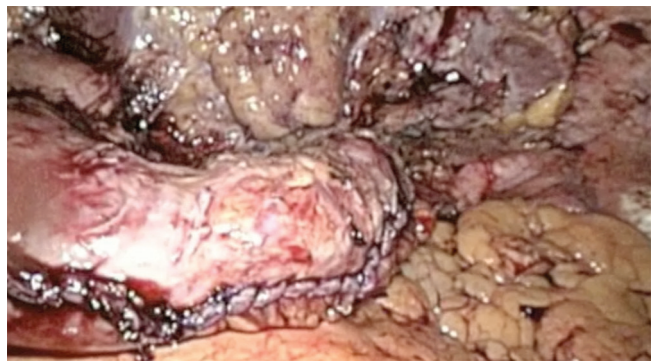


FIGURE 2 – Final aspect of the sleeve gastrectomy

DISCUSSION

In recent years, improvements in perioperative care has enabled an increase in survival of transplant patients, which reaches levels of 85 to 90% at one year and 70-80% after five years in high volume centers¹¹. Nevertheless, the impact of obesity on long-term results of liver transplantation has become increasingly evident, associated with recurrence of NASH and increased incidence of diabetes, dyslipidemia and cardiovascular disease, jeopardizing the survival of these patients¹². In this sense, although it is a big risk, treating obesity in these patients is warranted, including surgical procedures. For this reason, Heinbach et al.¹³ performed orthotopic liver transplants associated with sleeve gastrectomy in seven patients with BMI > 35 kg/m². There was one fistula, with good evolution, and no mortality or graft loss in any case. No patient developed steatosis or type II diabetes in the late follow-up. In the other hand, in a group of 34 patients with similar characteristics, submitted to isolated transplantation, steatosis was observed in 12/34, and type II diabetes has been diagnosed in 21/34 patients¹³. Others have used the same technique in obese patients in a liver transplantation program, but prior to the transplant, with low morbidity and no mortality^{14,15}. In the

presented case, the patient was obese since childhood and unresponsive to dietary treatment. She was transplanted with a high BMI, but in a situation that would certainly not enable prior treatment for weight loss, given the complications (ascites, SBP) and high MELD.

Sariatric surgery after liver transplantation was first described by García Duchini and Brunson in 2001⁸, who performed conventional gastric bypass in two patients, with good results (weight loss, normalization of blood glucose levels, regression of steatosis). The first case of laparoscopic gastric bypass was described by Tichanski and Madan in 2005, also with a good outcome¹⁵. However, a retrospective study conducted at the University of Minnesota, which evaluated seven patients who underwent conventional bypass after liver transplantation between 2001 and 2009⁹, revealed that two patients died six and nine months after bariatric surgery of multiple organ failure and metastatic esophageal squamous cell carcinoma, respectively. Another patient had the operation reversed for severe malnutrition and four patients had good results (57%).

More recently, Lin et al.¹⁰ performed sleeve gastrectomy in nine patients with a past of liver transplantation, eight by videolaparoscopy and one by laparotomy. The mean operative time was 165 min and the mean hospital stay was five days. One patient operated by videolaparoscopy developed a biliary fistula from the liver surface and required reoperation for drainage; and another had postoperative dysphagia which was also treated surgically. There was no mortality. Eli et al.¹⁶ performed the same procedure by robotics, with good results. In this case, the most laborious surgical time was certainly detachment of the left lobe of the liver adhered to the anterior wall of the stomach. Was carry out drainage routinely in patients undergoing sleeve gastrectomy because is believed that it can contribute to the early diagnosis of a fistula, avoid reoperation and it do not add morbidity to the procedure. The small number of studies and cases operated in the described situation, do not allow a conclusion or consensus as to the optimal bariatric technique after liver transplant. Roux-en-Y gastric bypass is associated with malabsorption of micronutrients (iron, calcium, zinc, copper) and vitamins (B12 and D) and can affect the absorption of immunosuppressive drugs, which could theoretically compromise the evolution of the patients¹⁷. The adjustable gastric band, which has also been used¹⁸ is the insertion of a foreign body that can

cause an increased risk of infection in immunocompromised patients. Sleeve gastrectomy has occupied the space of the adjustable gastric band, promotes greater weight loss, do not demand the maintenance required by the band and also does not compromise the absorption of either nutrients or medications¹⁹. For this reason, it has been the preferred technique by most authors for the treatment of morbid obesity in patients with liver disease before or after liver transplantation. However, more studies are needed to assess the progress and long-term complications in transplant patients undergoing bariatric surgery, as well as the best technique for treating this group of patients.

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