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Case Report

Laparoscopic Biliopancreatic Diversion with Gastric Preservation in a Patient with Down Syndrome

Derivação Biliopancreática Laparoscópica com Preservação Gástrica em um Paciente com Síndrome de Down

HAIRTON COPETTI, MD[1]; CHARIF CHAMSE DDINE, MD[1]; ANDRÉ EMANUEL LUNKES DE OLIVEIRA[2]; RAFAEL CRUZ DE OLIVEIRA[2]; LISIANE VARGAS[2]; GABRIEL DOTTA[2]

Department of Surgery, Federal University of Santa Maria, Santa Maria, Rio Grande do Sul, Brazil.
[1]General Surgeon and Professor, [2]Medical students.

ABSTRACT

Patients with Down syndrome have a higher prevalence of obesity when compared to the general population. Binge eating in superobesity is an important characteristic that makes treatment more difficult. This is a case report of a laparoscopic biliopancreatic diversion with gastric preservation undergone by a morbidly obese woman with Down Syndrome, after extensive evaluation of the patient as well as her parents' psychological profile. The technique allows better post-operative control of food ingestion, achieving effective weight loss after surgery without major complications.

Key words: Down Syndrome, Obesity, Laparoscopic Biliopancreatic Diversion.

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INTRODUCTION

Down Syndrome (DS) is the most common chromosomal abnormality among live births, affecting approximately 1 in 1,000 individuals.[1,-4] Individuals with Down Syndrome have a higher prevalence of obesity as compared with the general population (45% versus 33 % for men, 56% versus 36% for women).[5,6] Little is known about the etiology of obesity in such cases. However, hypoactivity, reduced metabolic rates and malnutrition — all characteristics of DS patients — may have a close relationship with the etiology.[7] Moreover, the genetic alteration present in this syndrome may in itself lead to increased physical disability, hampering mobility, and leading to sedentarism.[8,9]

Biliopancreatic Diversion (BPD) with Gastric Preservation consists of complete sectioning of the proximal first third of the stomach (about 13 cm from the esophagogastric transition along the large curvature), with preservation of about 40% of the stomach's volume. The ileocecal valve is identified and marked with a suture stitch 50 cm proximal to the valve. The jejunum is sectioned, so that the remaining alimentary channel is approximately 200 cm. A gastrojejunal anastomosis is done using a linear cutting stapler, passing the distal intestinal stump through an orifice opened in transverse mesocolon at the Treitz Angle. The rest of the stomach (60%) is excluded, but not removed as in the Scopinaro technique. The jejuno-ileal anastomosis is 50 cm from the ileocecal valve.[10,11]

We present the case of 28 year old patient with DS, a BMI of 57, in whom we performed this surgical intervention in order managing the morbid obesity. We believe this is the first case reported in literature of a patient with DS undergoing bariatric surgery.

CASE REPORT

CSS, 28 years old, female, with Down Syndrome, long-standing obeseity (BMI 57), who sought our service along with her parents, after being treated for morbid obesity by an endocrinologist, nutritionist and psychiatrist. She had been able to lose 28 kg, but regained the weight. She reported a history of binge eating and was being treated for Chronic Furunculosis. The patient was well oriented, as well as being assisted by her family, and expressed her

desire to undergo bariatric surgery. Pre-operative laboratory tests showed elevated transaminases and subclinical hypothyroidism. Abdominal ultrasound imaging was suggestive of hepatic steatosis; an upper digestive endoscopy was unaltered.

The patient underwent BPD with the described technique, with no complications. During the hospitalization, the patient tolerated the diet well, and produced 3 to 4 pasty stools daily, with no fever and no nausea. On the eighth post-opertive day, she developed a periumbilical hematoma, seroma drainage through one of the portals, and cellulitis on the lower belly.

The mother reported that in the first two months the patient had episodes of anxiety and depression associated with partial rejection of the diet and physical activity. Four months after surgery, she had lost 29.5 kg, and still presented episodes of binge eating associated with epigastric pain. After a year and five months, with loss of 43 kg and BMI of 37, she feels happy and is active, and the family is satisfied with the outcome. On average, she has three bowel movements a day. She takes a multi-vitamin and undergoes clinical and laboratorial surveillance every three months. To date, there has been no evidence of anemia nor vitamin or protein deficiencies.

DISCUSSION

As Down Syndrome itself can stigmatize, obesity can interfere with the ability to socialize and perform physical activities, capabilities that are very important for the physical and emotional development of these individuals.[5,6] Excess weight increases the risk of, hypertension, diabetes, and acute myocardial infarction leading to shorter life expectancy.[4] These facts indicate the need for effective treatment of obesity and management of comorbidities to improve life expectancy.[6,12,13]

BPD, by combining early restriction and long lasting disabsorption, leads to an effective and well tolerated loss of excess weight,.[11-14] Benefits of weight loss include normalization of secondary hypertension, hypercholesterolemia, and the prospect of reversing type II diabetes mellitus.[13,14] The use of videolaparoscopy reduces the occurrence of incisional hernias and infections, thereby reducing post operative pain and accelerating ambulation.[11,15] The gastric preservation possible with this technique, also described by Domene, makes the surgery completely reversible. This option is extremely important in this case, because of the patient's and her family's psychological profile there were concerns regarding the acceptance of the surgery and post-operative eating behavior. Moreover, gastric preservation can reduce morbidity by lessening surgical trauma and also reduces the possibility of duodenal stump fistulas. Retaining a gastric pouch with dimensions that allow a normal diet facilitates the post-operative psychological-psychiatric management.[10]

CONCLUSION

Considering that the superobese present serious eating disorders – with up to two-thirds having significant binge eating disorders and nearly half having significant psychiatric disorders – in electing a Biliopancreatic Diversion with Gastric Preservation the option of reversing the process is maintained and a gastric volume suitable for a more disabsorptive weight loss instead of a restrictive one is preserved, allowing more flexible clinical management going forward.[10]

RESUMO

Portadores de Síndrome de Down apresentam uma maior prevalência de obesidade quando comparados com a população em geral. A compulsão alimentar na superobesidade é uma característica marcante, o que torna mais difícil o seu tratamento clínico. Relatamos um caso de derivação biliopancreática videolaparoscópica com preservação gástrica em uma mulher superobesa e com Síndrome de Down, após ampla avaliação do perfil psicológico da paciente e de seus pais. A técnica disabsortiva possibilitou um melhor controle alimentar pós-operatório, obtendo efetiva perda de peso após a cirurgia e evoluindo sem complicações maiores.

Palavras-chave: Síndrome de Down - Obesidade - Derivação Biliopancreática Videolaparoscópica.

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Correspondence Address:
HAIRTON COPETTI, MD
2350/207-B, Pinheiro Machado Street
Zip Code: 97050-600
Santa Maria, Rio Grande do Sul, Brazil
E-mail: hairton.copetti@terra.com.br