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Original Article

LONG FOLLOW-UP OF PATIENTS WITH GASTRIC BAND

Seguimento tardio em pacientes com banda gástrica

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ABSTRACT - *Background*: The adjustable gastric band laparoscopic technique is safe, reversible and potentially effective alternative to gastric bypass Y-deRoux. However, it has a high rate of reoperation and unsatisfactory weight loss. ***Aim*** – To present a cases series with the use of gastric banding in long term follow-up analyzing the withdrawal rate, its causes and the surgical conversions performed ***Methods***: Retrospective study based on the analysis of 19 patients who underwent the procedure between November 1999 and November 2002, and reviewed with clinical follow-up until late February 2011. The patients were analyzed in the following aspects: gender, age, preoperative weight, preoperative BMI, duration of follow-up, reasons for removal of the gastric band, need for conversion to another type of surgery and failure rate of surgical method. ***Results***: Nineteen patients underwent the procedure, four women and 15 men. The mean preoperative BMI was 41.95 kg/m^2 (36-54). The band was withdrawn in 13 patients (68.42%), including seven by erosion, four for unsatisfactory weight loss and two for gastroesophageal reflux. The gastric bypass was conducted in ten patients and Scopinaro operation in one. Two patients had not been reoperated till nowadays and four were lost in late follow-up. ***Conclusion***: The gastric band is technically unsatisfactory in long-term evaluation, have high withdrawal rate due to migration or unsatisfactory weight loss.

HEADINGS - Treatment failure. Reoperation. Obesity.

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RESUMO – *Racional* - A banda gástrica ajustável por via laparoscópica é técnica segura, potencialmente reversível e alternativa eficaz ao by-pass gástrico em Y-de-Roux. Porém, ela tem taxa elevada de reoperação e perda de peso insatisfatória. ***Objetivo*** - Apresentar uma série de casos com o uso da banda gástrica em seguimento de longo prazo analisando o índice de retirada, suas causas e as conversões cirúrgicas efetuadas. ***Métodos***: Estudo retrospectivo baseado na análise de 19 pacientes submetidos ao procedimento no período de novembro de 1999 a novembro de 2002, e revisados com seguimento clínico tardio até fevereiro de 2011. Os pacientes foram analisados nos seguintes aspectos: sexo, idade, peso pré-operatório, IMC pré-operatório, tempo de seguimento, motivos de retirada da banda gástrica, necessidade de conversão para outra modalidade cirúrgica e índice de falha do método cirúrgico. ***Resultados***: Dezenove pacientes foram submetidos ao procedimento, sendo quatro mulheres e 15 homens. O IMC médio pré-operatório foi de 41,95 kg/m^2 (36-54). A banda foi retirada em 13 pacientes (68,42%), dos quais sete por erosão, quatro por perda de peso insatisfatório e dois por refluxo gastroesofágico. O bypass gástrico foi realizado em dez pacientes e operação de Scopinaro em um. Duas pacientes ainda não tinham sido reoperadas e quatro perderam o seguimento. ***Conclusão***: A banda gástrica é técnica insatisfatória a longo prazo, com alto índice de retirada por migração ou por perda de peso insatisfatória.

DESCRITORES - Falha de tratamento. Reoperação. Obesidade

INTRODUCTION

Obesity is a chronic, multifactorial disease and genetically related to accumulate excessive body fat[12]. Morbid obesity is becoming endemic, associated with several comorbidities, which decreases the quality and life expectancy. Higher body weight, lower life expectancy[1].

Obesity is considered when the body mass index (BMI) is above 30 kg / m^2. WHO defines obesity grade I when the BMI is between 30 and 34.9 kg / m^2; grade II between 35 and 39.9 kg / m^2, and grade III when it

exceeds 40 kg / m^2. Are morbid obese patients the ones that have 100% or more above its expected weight[4].

Morbid obesity is imminent danger to life and should be treated permanently, according to National Institute of Health Consensus Conference, 1991. Surgical treatment is the best option for weight loss and its maintenance over the long term[2,3]. Bariatric surgical procedures are safe and effective in increasing longevity and quality of life[4].

The technique of placing a prosthesis around the stomach without gastroplasty was introduced by Molina in 1983. The laparoscopic revolution was in the early 90s; with time, it became easy and attractive alternative done by laparoscopy, adjustability and reversibility. It is potentially reversible, safe and effective alternative to gastric bypass-Y-Roux In general, the bypass (laparotomic or laparoscopic), is the main procedure currently used for permanent weight loss[3]. The gastric band was for some time considered by many to be the treatment of choice for obesity, for its simplicity and success on the first results. However, it has a high rate of reoperation and unsatisfactory loss of weight along the time. Esophageal reflux perforation of the stomach, dilation of the pouch, extruding the band, among others, are the main complications.

This paper aims to present a series of cases with the use of gastric banding in long term follow-analyzing the withdrawal rate, its causes and surgical conversion.

METHODS

A retrospective analysis of 19 patients was performed with laparoscopic adjustable gastric banding in Joinville, SC, coming from a private clinic from November 1999 to November 2002, with follow-up until February 2011.

Patients were examined in the following aspects: gender, age, preoperative weight, preoperative BMI, duration of follow-up, withdrawal of the gastric band, need for conversion to another surgical procedure and failure rate of surgical method.

The criteria used for surgery were based on determinations of the National Institute of Health for Severe Obesity including a BMI greater than 40 kg / m^2 or greater than 35 kg / m^2 with severe comorbidities BMI.

RESULTS

Nineteen patients were analyzed, of these 15 were women (79%). The mean age was 39.3 years (21-59), mean weight was 126 kg (73-160), and BMI (kg / m^2) average of 41.95 kg / m^2 (36 -54) (Table 1).

TABLE 1 - Characteristics of the sample

	Total	
Men	4	
Women	15	
	Average	Variation
Age (years)	39.3	21-59
Weight (Kg)	126	73-160
BMI (kg / m^2)	41.9	36-54

Follow-up ranged from three years and eight months to eight years and nine months. The three patients who remained with the band had the longest follow-up. Four were followed on average for three years and eight months and after contact was lost; the remaining 12, were followed until removal of the gastric band in period of three years and eight months on average (Table 2).

TABLE 2 - Late follow-up (3.8 to 8.8 years) after placement of the band

Follow	Patients	% EWL	Mean follow-up
With band	3	26.06 (16-36)	8 years and 9 months
Lost follow-up	4	61.5 (31-91)	3 years and 8 months *
Band withdrawal	12 (63.5%)	45.52 (0-80,2)	3 years and 8 months **

* Weight in last query; **weight and follow-up at the time of removal

The weight loss was 26.06% in the patients who continued with the gastric band (eight years and nine months); 61.5% in those who did three years and eight months follow-up (lost after this period) and 43.31% on band removal (Table 2).

Thirteen patients withdrew from the band, seven (58%) due to erosion, four (34%) to failure of weight loss and two (8%) due to gastroesophageal reflux (Figure 1). Eleven patients underwent reoperation, eight laparoscopic bypass, two Capella operation and one Scopinaro. Two patients were not reoperated. (Table 3).

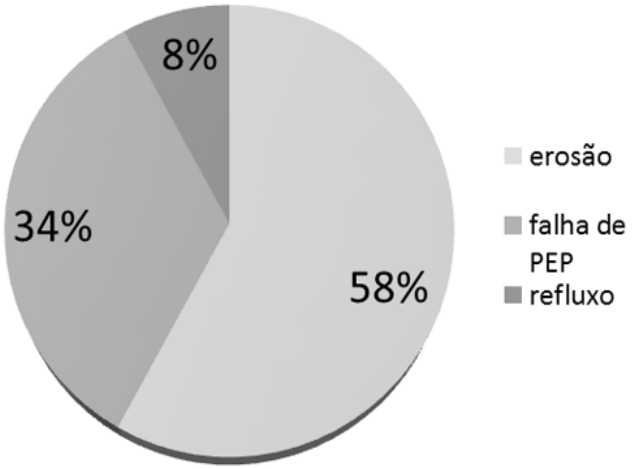

FIGURE 1 - Causes of band withdrawal

TABLE 3 - Patients who have removed the gastric band

Status post removal of the band	N
Reoperation due weight regain	9
Reoperation for reflux	1
Laparoscopic bypass	7
Capella laparotomy	2
Scopinaro	1
No reoperations	2

Figure 2 shows failure in overweight: 1) 0 to 25% = failure; 2) 20 to 50% = average; 3) 50 to 75% = good; 4) 75 to 100% = excellent. Was considered treatment failure in 13 patients who had to remove the band and in four who lost follow-up. The two patients who remained with the band showed loss of excess weight; in 16% and 25%, also were characterized as failure.

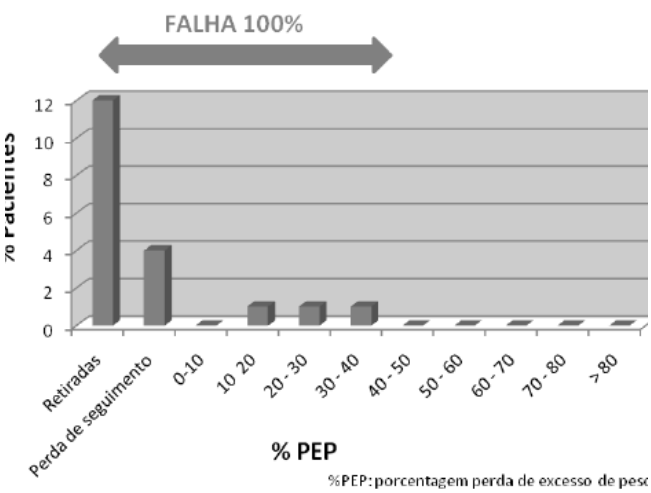

FIGURE 2 - Failure in losing weight excess

DISCUSSION

In the literature review, according to Boza et al.[2], the gastric band has low perioperative morbidity. However, causes significant and insufficient weight loss late complications after five years[2], as in this series. They analyzed 199 patients who required reoperation in 20.1%; late complications in 33.6% and 0% mortality. Removal of the band was required in 28 patients mainly to the inadequate loss of weight and erosion. Twenty of these patients underwent revisional operation: 12 sleeve gastrectomy and laparoscopic Roux-en-Y gastric bypass in eight[2].

Unsatisfactory results after band placing was seen in other study[5]. The results are similar to this study: the majority of patients failed to achieve the expected reduction of weight and 16.7% required reoperation. Sleeve gastrectomy was required in 14 patients (11.5%)[5].

In another study[9], evaluations were conducted from June 1998 to June 2009 in a total of 167 patients, 120 women. Follow-up was done on 94% of the participants. Concluded that the band is safe and effective treatment. However, due to complications as infection, migration, escape, slip, intolerance band and esophageal dilations, requiring reoperations and failure, leads to the conclusion that the band should be performed only in selected cases[9].

Lanthaler et al.[7] studied 276 patients, most women on nine years after operation. Reoperation was 52.9% due to some complication[8]. Their results were satisfactory in the category of weight loss in patients who still kept the band. At the end of the study, only 53.6% of patients continued with the original band, 17.8% were reoperated replacing the band with a new one, and 28.6% had their band removed[7].

Swansoin et al.[11] studied 86 patients and reached the same conclusions[9]. However, they found 25% increase in symptoms of gastroesophageal reflux[11].

Kirshtein et al.[6] selected from more than 6000 patients who have placed adjustable gastric band laparoscopically, those who required urgent operation. They reported 14 cases migration and perfuration[6]. All patients had gastrointestinal symptoms at admission. The replacement of the band was performed in four cases and eight required removal of the band for contamination, with no mortality[6]. Finally, only four patients were able to have the gastric band reinserted[6].

In a Brazilian study, was evaluated the multidisciplinary approach in morbidly obese patients undergoing treatment with band[10]. The postoperative follow-up of 20 patients was conducted by a multidisciplinary team (surgeon, endocrinologist, psychiatrist and dietitian). In the first six months, the orientation was monthly visits for band adjustments and nutritional guidance. After, every two or three months, as needed[10]. Only two patients required surgical reintervention for late complications: one by rotation and one for upper sliding. There was overall improvement of comorbidities (hypertension, type

2 DM, sleep apnea, orthopedic problems and severe hypertriglyceridemia), more pronounced in patients with higher weight loss. The results were satisfactory for most patients in the categories of weight loss and improvement of comorbidities [10].

The best patient profile for success after gastric band procedure, is having less than 40 years, body mass index below 50 kg / m^2, changing eating habits and increasing physical activity after surgery[8]. Another important variable is that the patient has been operated by a team that runs over two bariatric procedures for week[8].

Therefore, laparoscopic adjustable gastric band is not an effective long-term procedure. Due to the therapeutic failure, gastric banding is not indicated by the authors of this paper.

CONCLUSIONS

The gastric band has unsatisfactory long-term results and high withdrawal rate due to migration, erosion or unsatisfactory weight loss.

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