

## OBESITY AND CHALLENGES OF BARIATRIC SURGERY

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**Abstract:** Obesity is included in the group of non-communicable diseases, and its prevalence is increasing extensively, reaching epidemic proportions. more than 1 billion adults are overweight and of these more than 300 million are obese, this being the main component for chronic and limiting diseases. In developed countries, such as the United States of America (USA), 73% of the population is obese, with obesity-related mortality reaching 300 thousand cases per year. The global obesity epidemic reflects the social, economic and cultural problems currently faced by developing or recently industrialized countries, as well as by ethnic minorities in disadvantaged situations in developed countries. Obesity is a complex disease with serious social and psychological consequences, which affects all ages and social groups. **METHOD:** This is a narrative review of the literature, which aims to describe obesity, showing its causes and complications, and when to recommend bariatric surgery, from a theoretical point of view. **DISCUSSION:** Among obese patients, the female sex stands out, the predominance of patients of this sex seems to indicate that there was a greater demand for treatment among women, however, it may reflect the search for women with domestic activities, who had greater availability of time for treatment (Porto MCV et al 2002). Regarding age, the data is similar to other studies. Bariatric surgery, nowadays, is the most effective treatment for grade III obesity and has been expanding exponentially, in line with this global epidemic, and to date, of the patients undergoing this surgery, only 1% have the effects. of this therapy (weight loss) reversed. Periodic multidisciplinary monitoring in the post-operative period of bariatric surgery has a significant impact on weight loss, with clinical monitoring of the patient and psychological support. **CONCLUSION:** The treatment of grade III

obesity, through an interdisciplinary team, results in a more effective treatment, with the entire team speaking the same language to the patient, highlighting that the success of the treatment depends mainly on the patient's commitment.

Diet and physical exercise have been shown to be ineffective over a long period of treatment. More than 90% of people who have tried to lose weight regain it in specialized clinics where there is a substantial loss of weight, after stopping treatment the weight is regained.

**Keywords:** '' Obesity; ''Bariatric'', ''treatment''.

## INTRODUCTION

The global obesity epidemic reflects the social, economic and cultural problems currently faced by developing or recently industrialized countries, as well as by ethnic minorities in disadvantaged situations in developed countries. Obesity is a complex disease with serious social and psychological consequences, which affects all ages and social groups. The genetic factor is an important determinant of a person's susceptibility to weight gain, and weight balance is determined by calorie intake versus calorie expenditure. Therefore, the obesity epidemic has been driven by changes in society and eating habits, brought about by economic growth (Buchwald H, Williams SE 2004).

When compared to individuals with normal weight (body mass index - BMI 18.5-24.9 kg/m<sup>2</sup>), those with overweight (BMI 25-29.9 kg/m<sup>2</sup>) have a higher risk of developing diabetes mellitus, dyslipidemia and high blood pressure, conditions that favor the development of cardiovascular diseases and even certain forms of cancer. the consequences range from an increased prevalence of premature death, to serious chronic conditions that reduce quality of life (Bray GA, Macdiarmid J 2000). There is a

worldwide epidemic of overweight, obesity (BMI 30-39.9 kg/m<sup>2</sup>) and grade III or severe obesity (BMI > 40.0 kg/m<sup>2</sup>) which is reaching critical prominence, reaching 1.7 billion people (WHO 2004).

Obesity is included in the group of non-communicable diseases, and its prevalence is increasing extensively, reaching epidemic proportions. more than 1 billion adults are overweight and of these more than 300 million are obese, this being the main component for chronic and limiting diseases. In developed countries, such as the United States of America (USA), 73% of the population is obese, with obesity-related mortality reaching 300 thousand cases per year. In Brazil, around 40% of the population is overweight, with 10.1% being obese and 28.5% being overweight. the mortality rate is 12 times higher in morbidly obese individuals than in people of normal weight aged between 25 and 40 years (Garrido Junior 2003).

Bariatric surgery is the most effective treatment for grade III obesity. The purpose of surgical treatment is to improve not only the quality, but also the life span of the obese person, solving the physical and psychosocial problems that being overweight causes (Buchwald H, Williams SE 2004).

Confirming the seriousness of this epidemic is the fact that obesity is a complex disease with serious social and clinical consequences, such as high blood pressure, sleep apnea and even some types of cancer, which affects all ages and social groups, and is considered difficult to treat. It is necessary to carry out a comprehensive analysis of the patient's multiple clinical aspects, before recommending bariatric surgery, and the participation of a multidisciplinary team composed of a surgeon, nurse, nutritionist, psychologist, physiotherapist, among others, is essential. Professionals involved who are aware of the changes caused by obesity, who

can help and motivate the patient towards appropriate treatment, since surgery acts on the consequence of the obesity disease (weight) and not on its cause.

Each professional in the multidisciplinary team is responsible for part of the treatment, making care more intensive and results faster, with the nurse having a dual role: ensuring technical efficiency in the peri-operative period and acting as a facilitating link between the professionals, the patient and family members (Pereira EA et al 2007). Among the patients and clinical treatment (diets, physical exercise and medications), 245 (97.22%) patients had already been subjected to some type of diet for obesity, 211 (83.73%) reported having performed physical activities and 176 (69.84%) used medication for obesity.

## METHODOLOGY

This is a literature review, of a narrative type, which aims to describe obesity, showing its causes and complications, and when to indicate bariatric surgery, from a theoretical point of view, through materials that have already been published on the topic in question, through analysis and interpretation of the literature. The inclusion criteria were: articles in Portuguese and English; published between 2018 and 2024 and which addressed the themes proposed for this research, review-type studies made available in full. The exclusion criteria were: duplicate articles, available in abstract form, which did not directly address the proposal studied and which did not meet the other inclusion criteria.

The review was carried out from August 2023 to February 2024, through searches in the databases Virtual Health Library (VHL), Latin American and Caribbean Literature in Health Sciences (LILACS), National Institutes of Health's Library of Medicine (PubMed) and Scientific Electronic Library Online (SciELO).

The following descriptors were used: "Obesity", "surgery", "bariatric", "treatment" in order to find articles relevant to the subject covered. After the selection criteria, 6 articles remained that were subjected to thorough reading for data collection. The results were presented in a descriptive way, divided into thematic categories addressing: describing the subtitles or points that were mentioned in the discussion.

## DISCUSSION

Obesity is defined by excess body fat, linked to several health risks, covering social, behavioral and biological aspects. From this excess fat, it is possible to identify the predisposition to chronic non-communicable diseases, such as diabetes, cardiovascular diseases and cancer (ALMEIDA LM, et al., 2017).

Among the main causes of obesity, we can mention an inadequate diet with a large amount of carbohydrates and sugar, little consumption of fruit and a sedentary lifestyle. Genetic factors can also influence weight gain and difficulty losing weight. Therefore, with simple measures such as moderate physical activity and a balanced diet, excess body fat can be drastically reduced (SHOLER MC, et al., 2016).

Currently, bariatric surgery is the best treatment option for morbid obesity, complementing the practice of other therapies for weight control and comorbidities associated with excess adiposity. In addition to providing sustainable, long-term weight loss, this surgical procedure also improves the individual's metabolism with the resolution of various diseases, as well as promoting biopsychosocial well-being (Koshy AA, Bobe AM, Brady MJ 2013).

This treatment must be indicated for individuals who have a Body Mass Index (BMI)  $\geq 40$  kg/m<sup>2</sup> or  $\geq 35$  kg/m<sup>2</sup> who have

some comorbidity, are motivated and well informed about the lifestyle changes necessary after surgery. The good results obtained during the first years must be seen by these patients as the necessary stimulus to change their lifestyle habits. Therefore, the initial incentives motivated by weight loss must be directed towards the practice of physical activities, healthy eating and post-operative monitoring to ensure the persistence of the favorable results obtained (Costa RCNC, et al 2014).

Among obese patients, the female sex stands out. The predominance of patients of this sex seems to indicate that there was a greater demand for treatment among women, however, it may reflect the search for women with domestic activities, who had greater availability of time for treatment. (Porto MCV et al 2002). Regarding age, the data is similar to other studies. however, a study carried out with 50 patients, 10 men and 40 women, recorded a body mass index (BMI) of 40 to 81.7 kg/m<sup>2</sup> (average =52.2±9.2 kg/m<sup>2</sup>) and age between 18 and 56 years (average symbol) 38.5±9.7 (IBGE 2000).

Regarding ethnicity, white predominated in the present study. When discussing this data, support was sought in data on the resident population, by color, according to the municipalities of Mato Grosso do Sul, where there are 71,139 (3.42%) black, 788,797 (37.96%) brown, 1,135,811 (54.65%) white, 16,263 (0.78%) yellow, 53,900 (2.59%) indigenous and 12,162 (0.58%) without declaration.

When studying overweight and obesity in a sample of 1105 individuals aged 18 or over, it was found that women with low education had a high risk (OR = 5.95; 95% CI: 2.51 to 14.12) of developing obesity compared to men (13). Another study carried out in urban areas, involving 1,035 people to study the prevalence of obesity in adults, demonstrated that

people with more education are significantly less obese, characterizing this relationship between education and obesity as inverse (Gigante DP, 1997).

As reported by epidemiological-clinical data, the scarce existence of literature specifically on class III obesity is emphasized, addressing these aspects in morbidly obese patients. When addressing the most frequently occurring comorbidities, the predominance of: arterial hypertension, dyspnea, varicose veins and depression was detected, respectively, in descending order. Similar data were found in other studies that pointed to high blood pressure as the most common comorbidity (Faria OP, 2002).

Similar results were found with a prevalence of arterial hypertension of 66.7% among 316 patients diagnosed with grade III obesity, in the period from 1998 to 1999 with 499 patients, showing that the prevalence of arterial hypertension in patients with grade III obesity was 67.1% (Porto MCV et al 2002).

A study carried out between 1999 and 2000 in the USA showed that the prevalence of high blood pressure increased by 3.7%, with BMI being responsible for 2.0% of this increase (Hajjar I, Kotchen TA 2003)

The increasing prevalence of obesity throughout the world is becoming the biggest health problem in modern society in developed and developing countries (Segal A, FandiÒo J 2002). Clinical treatment is the first option for treating obesity. generally, it includes the use of anorectic or disabsorptive medications, in addition to psychological, physiotherapeutic, dietary and physical exercise treatments, with satisfactory results in cases where there is patient adherence to treatment, predominantly in mild and moderate forms of obesity (overweight). and obesity) (Segal A, FandiÒo J 2002).

Exercise and diet have been shown to be ineffective over a long period of treatment.

More than 90% of people who have tried to lose weight regain it in specialized clinics where there is a substantial loss of weight, after stopping treatment the weight is regained.

A sedentary lifestyle is a risk factor that can be easily eliminated, as even a simple walk can positively influence the life of an overweight and/or obese individual, but it is the factor that is most resisted by part of this audience, whether due to lack of time, interest, and mainly due to lack of support from people in social and personal relationships. It is worth noting that physical exercise is the first way to prevent this condition, followed by healthy eating, these are factors that together produce important improvements in this condition (Freire RS, et al. 2014),

Many medications used for obesity are sympathomimetics, pharmacologically associated with amphetamines. Both suppress appetite by stimulating the satiety center located in the hypothalamus, with one of the main side effects being increased blood pressure, in addition to constipation, dry mouth, headache, insomnia, dizziness and nervousness. Other drugs also used are; phentermine (ionaminæ), sibutramine hydrochloride monohydrate (meridiaæ), orlistat (xenicalæ) (Wolf C et al 2002).

Bariatric surgery, nowadays, is the most effective treatment for grade III obesity and has been expanding exponentially, in line with this global epidemic, and to date, of the patients undergoing this surgery, only 1% have the effects. of this therapy (weight loss) reversed. Periodic multidisciplinary monitoring in the post-operative period of

bariatric surgery has a significant impact on weight loss, with clinical monitoring of the patient and psychological support (Segal A, Fandio J 2002).

The treatment of grade III obesity, through an interdisciplinary team, results in a more effective treatment, with the entire team speaking the same language to the patient, highlighting that the success of the treatment depends mainly on the patient's commitment.

## CONCLUSION

Among the changes, obesity causes pathologies in the body: increase in size or production of hypertrophic fat cells, associated with clinical complications such as: type 2 diabetes mellitus, cholelithiasis, cardiovascular diseases such as: coronary heart disease, high blood pressure, stroke; hyperlipidemia, hepatic steatosis, sleep apnea, joint osteoarthritis, gout, some types of cancer (lung, endometrium and colon), hypercholesterolemia, gestational complications, menstrual irregularity, hirsutism, urinary incontinence, increased risk of surgical interventions and psychological disorders such as: binge eating disorder n compulsive eating and depression (Wolf C, Tanner M. 2002).

Among obesity-related diseases, high blood pressure is the most common comorbidity. Hypertension and high BMI are strongly associated in people under the age of 55 and approximately 80% of people with type 2 diabetes mellitus are obese (Wolf C, Tanner M. 2002).

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