INTERNATIONAL SEVEN JOURNAL
OF MULTIDISCIPLINARY
ISSN: 2764-9547

COMPLICATIONS ABOUT OBESITY: A NARRATIVE REVIEW OF THE LITERATURE

10.56238/isevmjv3n5-010
Receipt of originals: 0/12/2024
Acceptance for publication: 07/02/2024

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ABSTRACT

Objective: To analyze the complications of obesity. Literature Review: Obesity is the global pandemic of the twenty-first century, it is a chronic pathology, characterized essentially by the accumulation of excess body fat. Research has shown that the situation is worrisome, since the consequences of obesity can directly interfere with the quality of life of the population, and according to Faeh D, et al. (2011) it is also associated with the growing mortality statistics. The increase in body fat is accompanied by profound changes in physiological functions, which can lead to adverse health effects, such as diabetes mellitus, cardiovascular diseases, dyslipidemias, chronic kidney disease, certain cancers, among other health problems. Final considerations: It is noteworthy that gastrointestinal and liver diseases, as well as their complications, become more accentuated with obesity, with a high prevalence of gastroesophageal reflux, erosive esophagitis, Barrett's esophagus, erosive gastritis, dysbiosis, diarrhea, non-alcoholic fatty liver disease and even gastric cancer. Environmental, genetic, nutritional and immunological factors showed a strong relationship with the pathophysiological mechanisms involved in the development of these diseases.

Keywords: Obesity. Complications. Adipose Tissue.

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INTRODUCTION

Obesity is the global pandemic of the twenty-first century, it is a chronic pathology, essentially characterized by the accumulation of excess body fat. Research has shown that the situation is worrisome, since the consequences of obesity can directly interfere with the quality of life of the population, and according to Faeh D, et al. (2011) it is also associated with the growing mortality statistics. In Brazil, the percentage of obese people in adulthood went from 12.2% in 2003 to 26.8% in 2019. In the same period, the proportion of the adult population overweight went from 43.3% to 61.7%, representing almost two-thirds of Brazilians. This means that currently one in four people over twenty years of age is obese, and more than half of the population is overweight (BRASIL, 2019).

According to the World Health Organization (WHO), obesity is conceptualized as a global, multifactorial disease, characterized by the excessive accumulation of adipose tissue. It results from the interaction of genetic, cultural and family factors. It is considered a disease because it predisposes to early death and the onset of diseases, as it is currently one of the most serious public health problems. The main form of diagnosis is through the calculation of the Body Mass Index (BMI), evaluated according to the WHO, when the BMI is ≥30 kg/m², and the weight range that indicates normal weight between 18.5 and 24.9 kg/m (ABESO, 2016).

Treatment, prevention, and lifestyle change through dietary intervention and increased physical activity is ineffective in most patients. In this scenario, pharmacological treatment becomes effective in combating obesity, as the obese person must be submitted to a treatment with drug intervention to achieve better results, associated with a diet and physical activity to help maintain this result in the long term (BRASIL, 2016).

LITERATURE REVIEW

First, it is necessary to emphasize that obesity represents a pandemic and multiethnic problem, with incidence in high, medium and low-income locations, especially in urban areas, affecting both men and women of the most diverse age groups (WANNMACHER, 2016). The World Health Organization (WHO) defines obesity as a chronic disease characterized by the atypical or exaggerated accumulation of fat throughout the body, posing health risks (DIAS et al., 2017).

Adipose tissue is an active endocrine organ and modulator of immune function, and is no longer considered an inert repository of stored fat (ARAÚJO MC, et al., 2022). The main activities related to this tissue partly explain the relationship between obesity, metabolic syndrome, gastrointestinal disorders and cardiovascular diseases. Also, we can highlight the role of adipose tissue in the homeostasis of redox balance and inflammatory processes, and can be an aid in the production of pro- and anti-inflammatory cytokines (KHALAFI M, et al., 2023).

The role that has been attributed to mesenteric adipose tissue is emphasized, due to its recurrent association with gastrointestinal disorders, which we can highlight hepatic steatosis, acute pancreatitis, gastrointestinal cancer, and Crohn's disease (FRANÇA LM, et al., 2020; KARASKOVA E, et al., 2021).

Several hormones are involved in the development and progression of obesity, such as insulin, which is synthesized by β-pancreatic cells and has endocrine (stimulating liver cells) and paracrine (through the diffusion process, where molecules act on cells neighboring the signaling cell) in carbohydrate metabolism. Because insulin acts directly on glucose metabolism, its function is directly related to the production of energy for the maintenance of the body's homeostasis (ARAÚJO MC, et al., 2022).

The increase in body fat is accompanied by profound changes in physiological functions, which can lead to adverse health effects, such as diabetes mellitus, cardiovascular diseases, dyslipidemias, chronic kidney disease, certain cancers, among other health problems. Since these pathological states are strictly associated with insulin resistance and hyperinsulinemia. Insulin resistance, described as the main link between obesity and diabetes mellitus (mainly DMtype 2), is a condition in which target peripheral tissues, such as skeletal muscle, liver, and adipose tissue, have a subnormal response to circulating insulin levels, resulting in a lower physiological effect of this hormone, highlighting lower glucose uptake (CHEN J, et al., 2023; KHALAFI M, et al., 2023). This resistance.

The pathophysiology of obesity has been a key factor in understanding its relationship with various types of diseases. It has been shown that obesity is related to gastrointestinal diseases, such as diarrhea, celiac disease, Crohn's disease, esophagitis, and liver diseases (liver stones and non-alcoholic fatty liver disease) (MARCUS C, et al., 2022; MASSIRONI S, et al., 2023). In addition, adiposity, diabetes

mellitus, and certain lifestyle factors have been shown to be associated with gastroesophageal reflux disease (GERD) (YUAN S and SUSANNA CL, 2022).

Obesity is associated with gastroesophageal reflux disease (GERD) and its complications, including reflux esophagitis, Barrett's esophagus, and adenocarcinoma of the esophagus. These associations have been attributed to the mechanical effect of abdominal fat in increasing intra-abdominal pressure, thus promoting gastroesophageal reflux and causing disturbance of anti-reflux mechanisms at the esophagogastric junction. It is also suggested that visceral adipose tissue produces numerous cytokines that can cause esophageal inflammation and impair the integrity of the esophageal mucosal barrier through independent reflux mechanisms that make the esophageal mucosa especially susceptible to GERD-induced injury (PARIS S, et al., 2021).

FINAL CONSIDERATIONS

It is noteworthy that gastrointestinal and hepatic diseases, as well as their complications, become more pronounced with obesity, with a high prevalence of gastroesophageal reflux, erosive esophagitis, Barrett's esophagus, erosive gastritis, dysbiosis, diarrhea, non-alcoholic fatty liver disease, and even gastric cancer. Environmental, genetic, nutritional and immunological factors showed a strong relationship with the pathophysiological mechanisms involved in the development of these diseases. Dietary interventions, associated with lifestyle changes, may be responsible for reducing these pathologies. In addition, interventions and early diagnosis have a positive impact on the survival of these patients.

REFERENCES

1. Francisqueli, F. V., Nascimento, A. F., & Corrêa, C. R. (2015). Obesidade, inflamação e complicações metabólicas. *Nutrire: Revista da Sociedade Brasileira de Alimentação e Nutrição*, 81-89.

2. Alli, L. R. (2007). Obesidade infantil-complicações e fatores associados. *Revista Brasileira de Ciência e Movimento*, 15(4), 111-120.

3. Casselli, D. D. N., Araújo, P. D. R., & Mariano, C. M. (2021). Comorbidade entre depressão, ansiedade e obesidade e complicações no tratamento. *Research, Society and Development*, 10(1), e16210111489.

4. Dos Santos, D. L., Carvalho, R. S., da Silva, R. S., & Lemos, D. S. (2024). Influência da obesidade nas complicações gastrointestinais. *Revista Eletrônica Acervo Saúde*, 24(4), e15356.

5. Carlevaro, C. C. U., Machado, S. R. C., & Silveira, C. R. (2021). Obesidade infantil e suas complicações: Revisão integrativa da literatura. *Revista Faculdades do Saber*, 6(13), 963-971.

6. Pinheiro, L. G. V., Ferreira, L. M., da Silva, T. S., & Machado, A. L. R. (2023). Obesidade, gestação e complicações maternas e neonatais: uma revisão sistemática. *Scientific Electronic Archives*, 16(4).

7. Campos, B. T. L., Silva, A. C., & Ferreira, L. C. A. (2023). Obesidade infantil na atualidade: fatores de risco e complicações futuras. *Brazilian Journal of Health Review*, 6(2), 5838-5845.

8. Simão, M. C. S. A., Castro, M. R., & Oliveira, M. E. (2020). Aumento da obesidade em crianças e adolescentes: risco de complicações cardíacas futuras. *Revista Eletrônica Acervo Saúde*, 57, e4070.

9. Gonçalves, R. V., Silva, J. A., & Ribeiro, C. A. (2018). A obesidade como fator associado ao óbito causado por complicações tardias a procedimentos cirúrgicos. *Revista da Faculdade de Ciências Médicas de Sorocaba*, 20(3), 155-162.

10. Wayhs, M. C. (2011). Rastreamento das complicações da obesidade. *Revista Médica de Minas Gerais*, 2(3 Supl 1), S1-S144.

11. Ferreira, M. J. P. (2019). A obesidade como fator de risco para a infertilidade e complicações da gravidez (Tese de doutorado).

12. Guaragna, L. P., Andriolo, L. D., & Tamagno, G. M. (2008). O impacto da obesidade na morbi-mortalidade de pacientes submetidos à cirurgia de revascularização miocárdica. *Sci Med*, 18(Suppl 2), 75-80.