AGONISTAS DO RECEPTOR GLP-1 NO TRATAMENTO DA OBESIDADE: EFICÁCIA E IMPACTO NA QUALIDADE DE VIDA

GLP-1 RECEPTOR AFONISTS IN THE TRESTMENT OF OBESITY: EFFICACY AND IMPACT ON QUALITY OF LIFE

João Pedro Cardoso Faccio[1], Leonardo Augusto da Silva Mesa Casa[2].

1. Leonardo Augusto da Silva Mesa Casa do curso de Medicina da Faculdade Afya Pato Branco; **2.** João Pedro Cardoso Faccio do curso de Medicina da Faculdade Afya Pato Branco

leo.silvaa99@gmail.com

Eixo Temático: 01 - Saúde

RESUMO

A obesidade representa um importante problema de saúde pública, e esta muito associada ao aumento do risco de doenças cardiovasculares, metabólicas e a redução da qualidade de vida. Nesse contexto, as terapias baseadas nos agonistas dos receptores do peptídeo semelhante ao glucagon-1 (GLP-1) têm ganhado destaque como alternativas farmacológicas para o controle de peso e melhora da qualidade de vidas. O presente trabalho teve como objetivo analisar as evidencias recentes sobre a eficácia e a segurança de medicamentos baseado em GLP-1 no tratamento da obesidade. Foi realizada uma revisão bibliográfica de estudos publicados no PubMed, avaliando a intervenção farmacológica, redução de peso e benefícios cardiometabólicos. Os resultados demonstram que os agonistas de GLP-1 promovem redução significativa no peso corporal dos usuários mesmo sem possuir diabete mellitus. além disso, foi observados melhorias no parâmetro cardiometabólicos, como pressão arterial, perfil lipídico e controle glicêmico. Terapias de duplo agonismo GIP/GLP-1 tiveram resultados ainda melhores em relação ao peso corporal. Entretanto observou também eventos adversos como náuseas, vômitos, diarreia e constipação. Conclui-se que as terapias baseadas em GLP-1 apresentam elevada eficácia no tratamento farmacológico da obesidade, embora sua utilização deva considerar o perfil clinico e a tolerância do usuário

Palavra-chave: GLP-1. Obesidade. Benefícios.

ABSTRACT

Obesity is a major public health issue strongly associated with an increased risk of cardiovascular and metabolic diseases and a reduced quality of life. In this context, therapies based on glucagon-like peptide-1 (GLP-1) receptor agonists have gained prominence as pharmacological options for weight management and quality-of-life improvement. This study aimed to analyze recent evidence regarding the efficacy and safety of GLP-1-based medications for treating obesity. A literature review of studies published on PubMed was conducted, evaluating pharmacological interventions, weight loss, and cardiometabolic benefits. The results demonstrate that GLP-1 agonists promote significant body weight reduction in users, even in the absence of diabetes mellitus. Furthermore, improvements were observed in cardiometabolic parameters, such as blood pressure, lipid profiles, and glycemic control. Dual GIP/GLP-1 agonist therapies yielded even better results regarding body weight. However, adverse events such as nausea, vomiting, diarrhea, and constipation were also observed. It is concluded that GLP-1-based therapies are highly effective for the pharmacological treatment of obesity, although their use must take into account the patient's clinical profile and tolerability

Keywords: GLP-1. Obesity. Benefits.

INTRODUÇÃO

This project was proposed to third-semester medical students by Professor João Pedro Cardoso Faccio; it involves a literature review of two articles regarding the GLP-1 enzyme in non-obese individuals

As the obese population grows, the quest for weight control intensifies, with many people struggling to incorporate physical activity into their routines. Alongside the difficulty of exercising, dietary habits also present a challenge, as a large portion of the population lacks adequate caloric control

It was observed that diabetes medications such as Ozempic and Wegovy had a side effect: appetite suppression. Consequently, the use of GLP-1-based therapies for weight management began to rise around 2014, leading the aesthetic industry to adopt them as highly effective weight-loss agents

Amidst the widespread public use of medications containing GLP-1, a significant research movement emerged to better understand the potential benefits of this treatment and to identify the most potent molecular combinations for the drug

METHODS

Trata-se de uma revisão bibliográfica de caráter comparativo de 2 artigos publicados no PubMed. Foi selecionado 2 revisões sistemáticas recentes sobre utilização de medicamentos que usa GLP-1 para tratar a obesidade. A primeira revisão avaliou a eficácia dos agonistas do receptor de GLP-1 na perda de peso em adultos com obesidade sem diabetes mellitus, e a segunda revisão aborda os medicamentos aprovados para o tratamento da obesidade, com ênfase nas terapias baseadas em GLP-1 e nos agonistas duais GIP/GLP-1

Foram analisadas as características da população estudada, a intervenção farmacológica, o desfecho relacionado com a perda de peso e os eventos adversos que os estudos trouxeram. Posteriormente foi comparado os resultados em relação a perda de peso e o perfil de segurança das medicações avaliadas

RESULTS

In the first study, by Tanashat et al.[1], 19 randomized clinical trials were analyzed, totaling 32,884 participants with obesity but without diabetes mellitus. The results showed that the use of GLP-1 receptor agonists led to a significant reduction in body weight compared to placebo, with a mean difference of -8.53 kg. A reduction in total cholesterol levels was also observed

Regarding cardiovascular outcomes, the study by Tanashat et al.[1] did not identify a statistically significant difference in cardiovascular mortality between the groups treated with GLP-1 agonists and those receiving a placebo. However, significant reductions were observed

in all-cause mortality, non-cardiovascular mortality, and the incidence of acute myocardial infarction

The second study, by Gunasekaran et al.[2], evaluated 15 studies involving various medications used to treat obesity—including semaglutide, liraglutide, tirzepatide, and dulaglutide, as well as therapies based on dual GIP/GLP-1 agonism. The results showed that weight reduction varied according to the medication and dosage used. Semaglutide at a dose of 2.4 mg weekly resulted in a body weight reduction of approximately 14.9% to 15.2%, while tirzepatide led to reductions of 15% to 18.5%; dual GIP/GLP-1 therapies achieved reductions of up to 21.5% in body weight

In addition to weight loss, the study by Gunasekaran et al.[2] identified improvements in cardiometabolic parameters, including reductions in systolic blood pressure, LDL cholesterol, and glycated hemoglobin. Frequently reported adverse events were gastrointestinal in nature, primarily nausea, vomiting, and diarrhea. Serious events—such as pancreatitis and gallbladder-related complications—were considered less frequent

DISCUSSION

The results of both studies demonstrate that GLP-1-based therapy is highly effective for the pharmacological treatment of obesity, considering only total body mass loss. Despite employing different approaches, both reviews identified significant benefits associated with the pharmacological use of these agents

Tanashat et al.[1] observed a mean body weight reduction of 8.53 kg among individuals with obesity but without diabetes mellitus. The reduction in the incidence of acute myocardial infarction and all-cause mortality observed in this analysis suggests that the benefits of GLP-1 agonists may extend beyond mere weight loss, also encompassing favorable health effects and the management of cardiovascular disease

Gunasekaran et al.[2] complement these findings by demonstrating the drug's high efficacy for weight loss, highlighting dual GIP/GLP-1 therapies, which achieved a body mass reduction of up to 21.5%

Another relevant aspect observed in the studies is the benefit regarding conditions directly linked to an individual's lipid profile. These effects are significant because obesity is associated with an increased risk of hypertension, dyslipidemia, type 2 diabetes mellitus, and cardiovascular diseases. Therefore, the benefits of GLP-1 therapies can contribute to both weight loss and improved health outcomes for the study participants

Despite these benefits, safety remains a key consideration in the use of these medications. Both studies identified a higher frequency of adverse events—primarily gastrointestinal issues such as nausea, vomiting, diarrhea, and constipation. Although these adverse events are generally manageable, they can compromise treatment adherence and lead some patients to discontinue therapy

A significant difference between the studies lies in their analytical focus. Tanashat et al.[1] focused on individuals with obesity but without diabetes mellitus, placing greater

emphasis on cardiovascular outcomes, whereas Gunasekaran et al.[2] conducted a broader analysis of various medications used to treat obesity. Consequently, these studies should not be interpreted as a direct comparison between specific drugs, but rather as complementary articles regarding the efficacy and safety of GLP-1-based therapies

Based on these results, it is evident that GLP-1 agonists and related therapies represent a significant advancement in obesity treatment. However, the choice of medication must take into account the patient's comorbidities and their tolerance for adverse effects. Furthermore, despite promising results, long-term follow-up studies are needed to evaluate the sustainability of weight loss and long-term clinical outcomes

REFERENCES

1. Tanashat M, et al. The efficacy and safety of GLP-1 RAs in the modification of cardiovascular morbidity in patients with obesity without diabetes mellitus: a systematic review and meta-analysis of randomized controlled trials involving 32,884 patients. *Am J Cardiovasc Drugs*. 2025. doi:10.1007/s40256-025-00726-z.

2. Gunasekaran P, et al. Approved weight loss drugs for obesity with a thorough emphasis on GLP-1 agonist medications: a systematic review. *Dis Mon*. 2026;72(7):102113. doi:10.1016/j.disamonth.2026.102113.