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# Ozempic and its Protective Factors in Relation to Acute Myocardial Infarction

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## Abstract

Introduction: The World Health Organization (WHO) estimates that cardiovascular diseases account for 31

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## *Index terms—*

## 1 Introduction

The World Health Organization (WHO) estimates that cardiovascular diseases account for 31% of all deaths each year, making them the leading cause of death worldwide. As such, the search to reduce rates through the development of new treatments and approaches is incessant. The glucagon-like peptide-1 receptor agonist, or GLP-1RA, was launched in Brazil in 2018 and was developed for the treatment of diabetes mellitus. Its efficacy in reducing body fat, systolic blood pressure, total cholesterol, HDL-C, LDL-C, glucose tolerance, and body mass index was noted, thus reducing the risk of developing acute myocardial infarction. It is necessary to create a scientific basis for the correct use of the drug.

## 2 II.

## 3 Methodology

This is a literature review whose bases were taken from the SciELO and PubMed data platforms. The search period was July 2023, meeting the inclusion criteria of articles from 2000 to 2023, in Portuguese and English, online and in full text. The following health descriptors (DeCS) were used as strategies to better evaluate the texts: "Ozempic", "acute myocardial infarction" and "protective factors".

## 4 III.

## 5 Discussion

Cardiovascular diseases (CVD) are the leading cause of death worldwide and are among the main causes of disability and years of life lost, having an important social, economic, and quality of life impact on the population. (1,2) Cardiovascular risk factors include high cholesterol levels, diabetes mellitus, a sedentary lifestyle, high blood pressure, and obesity.

Progress has been made in reducing the risk of CVD through drugs indicated to control high lipid levels, hyperglycemia, blood pressure, heart failure, inflammation, and/or thrombosis, and obesity, a crucial contributor to CVD, has been implicated in promoting all of these issues, suggesting that sustained and effective weight loss may have a cardiovascular benefit. (2,3,4) The glucagon-like peptide-1 receptor agonist, or GLP-1RA, was first created to help people with type 2 diabetes. It had clear effects on their blood sugar levels and weight loss, especially with long-acting GLP-1RA. But studies on heart disease safety in type 2 diabetes patients, most of whom already had heart disease and were overweight, showed that GLP-1 receptor agonists could lower the risk of heart disease. (9) Thus, the GLP-1 AR semaglutide is in phase 3 studies as a drug for the treatment of obesity at a dose of 2.4 mg subcutaneously (s.c.) once a week, and its effects on heart disease and stroke in overweight or obese patients (SELECT) in a randomized, double-blind, parallel-group trial to see if semaglutide 2.4 mg subcutaneously once a week is superior to placebo when added to the standard of care for preventing serious adverse cardiovascular events in patients with established CVD and overweight or obesity, but without

diabetes. SELECT is the first cardiovascular outcomes trial to assess superiority in reducing major adverse T Since 2016, several cardiovascular (CV) outcome studies have shown that GLP-1 RAs can effectively stop CV events like acute myocardial infarction or stroke and the deaths that come with them. (6,7) In this sense, it is evident that semaglutide or Ozempic, GLP-1 receptor agonists (RAs), reduce weight, improve glycemia, decrease cardiovascular events in people with diabetes, and may have additional cardioprotective effects. Ozempic and its Protective Factors in Relation to Acute Myocardial Infarction cardiovascular events for an anti-obesity drug in such a population. (5,6,9) In this way, this study could provide new approaches to reducing the risk of CVD by targeting obesity.

Furthermore, it is questionable whether Ozempic can be a protective factor for diseases other than cardiovascular disease, given that obesity is linked to conditions such as hypertension, sleep apnea, and non-alcoholic fatty liver disease.

Thus, it is likely that by reducing weight, these comorbid diseases will also improve patients' quality of life. ??5;6;7;8) IV.

## 6 Final Comments

In view of what has been covered in the text, it can be concluded that although the medication Ozempi was developed with the intention of helping to treat diabetes mellitus, it is functional for the treatment of other pathologies. It is true that, as it has the effect of controlling and reducing systolic blood pressure, total cholesterol, HDL-C, LDL-C, glucose tolerance, and body mass index, factors that make up the cardiovascular risk criteria, it is understood that it is directly related to reducing the likelihood of an acute myocardial infarction. It is worth noting that the association of medication with changes in patients' lifestyle habits, involving diet and physical activity, contributes to a higher prevention rate.

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