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Extended Abstract
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Underuse and misuse of newer antidiabetic medications with established positive cardiovascular outcome

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Diabetes is a growing problem globally despite all advances in its management strategy. In the last decade particularly there has been a plethora of newer anti diabetic medications that have been introduced in the market.

Recent trials and studies have shown promising results in terms of cardiovascular event reduction using some newer classes of anti-diabetic medications such as GLP1 agonist and SGLT2 Inhibitors. There are now well-established guidelines on use of these medications in certain group of patients. These guidelines are based on several randomized controlled cardiovascular outcome trials. The pathophysiology of how they work, and their potential benefit are now well understood.

Despite clear recent guidelines, a significant proportion of patients with established or risk of CVD are not on appropriate anti-diabetic medications. There is still lack of knowledge, awareness as well as inertia amongst healthcare professionals in initiating these valuable medications which are not only safe but also effective and beneficial.

It is therefore needed that practicing physicians are educated and made aware of the use of these medications. At the same time, they also need to be aware of any side effects and contraindications and therefore use them judiciously. A wiser decision and choice of these agents should be made in partnership with the patient after they are adequately educated of the proposed new medication.

Type 2 diabetes is a debilitating disease that impacts the life expectancy, quality of life, and health of an individual. Cardiovascular disease (CVD) is a common diabetes-associated complication and a principal cause for death in diabetic patients. This review aims to investigate and summarize the effect of Type 2 diabetes mellitus (T2DM) medications on CVD issues. A comprehensive literature review mainly from level 1 evidence was performed. Thirty-seven articles were extracted from Google Scholar, Science Direct, ProQuest, and PubMed Database using a combination of keywords. The findings suggest that different glucose-lowering agents have been tested for their efficacy and safety in T2DM with CVD. Some of the recent trials such as the "United Kingdom Prospective Diabetes Study," "Empagliflozin (EMPA) Cardiovascular (CV) Outcome Event Trial in T2DM Patients-Removing Excess Glucose" (EMPA-REG OUTCOME), "Liraglutide Effect and Action in Diabetes: Evaluation of CV Outcome Results," and "Trial to Evaluate CV and Other Long-term Outcomes with Semaglutide in Subjects with Type 2 Diabetes" (SUSTAIN6) have shed important light on this vital clinical concern, thus demonstrating a convincing effect of liraglutide, semaglutide, and EMPA on CVD outcomes, while metformin is thought to be the first-line optimal oral agent to manage Type 2 diabetics. Some classes of drugs demonstrate CV protection, some of them may be a result of a class effect, and some differences might be based on the population enrolled individually. Most of the trials failed to show a significant benefit with regard to mortality and morbidity in spite of intensive glycemic control. This study, therefore, enabled us to develop a guide of potential antidiabetic medication that can influence or promote CV health. Health professionals in future should weigh the CV risk against possible advantages while prescribing antidiabetic medications.

This work is going to present partly at World Heart Congress, September 21-22, 2020, Edinburgh, Scotland