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Changing Paradigm of Type 2 Diabetes Management: Hypoglycemic to Non-Hypoglycemic Approach

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Editorial

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Abstract

Good glycemic control in diabetes is a difficult task being its complexities in management, hypoglycemia being the prime barrier. Recent discoveries of newer antidiabetic medicines open up a lot of opportunities for treating Type 2 Diabetes. Clinician should know the pros and cons of newer antidiabetic agents before prescribing it blanketly.

Abbreviations: T2DM: Type 2 Diabetes Mellitus; DKA: Diabetic Ketoacidosis.

Editorial

Type 2 diabetes is a heterogeneous disease with multiple causative factors. The worldwide prevalence of type 2 diabetes is 8.5 percent. There are more than 400 million people suffering from type 2 diabetes mellitus (T2DM) worldwide [1]. There are a host of medicines oral and injectables available to treat type 2 diabetes. Sulfonylureas, metformin, thiazolidinedione, alphaglucosidase inhibitors, DPPIV inhibitors, and recently SGLT2 inhibitors are oral drugs to treat type 2 diabetes in majority of cases. In spite of many classes of medicines available for the treatment of type 2 diabetes, glycemic control is still largely inadequate. Only 30-40 % of patients reach the glycemic target (HbA1c) of less than 7% [2]. Metformin is the first choice after the lifestyle intervention because of its efficacy and safety in type 2 diabetes [3]. After it there is a big controversy regarding the selection of OADs. Age, duration of diabetes, complications, co morbidities, cost, and tolerance are the factors to be considered while choosing the class of OADs. Each class of drug has its own merits and demerits. Hypoglycemia is the major limiting factor in treating diabetes. Sulfonylurea is probably the most potent but also the most notorious OAD to cause hypoglycemia. Another potent medicine is probably glitazones which can cause weight gain and oedema and therefore it is contraindicated in heart failure. DPP IV inhibitors are moderately potent with weight neutrality and do not cause hypoglycemia when used alone [4]. However a significant percentage of patients can't tolerate metformin and DPP IV inhibitors due to gastrointestinal side effects. SGLT2 inhibitors are the newest class of oral drug is being used in the treatment of type 2 diabetes. Empagliflozin, Dapagliflozin and Canagliflozin, Remogliflozin are currently available and approved in India. Mechanism of action of SGLT2 inhibitors is unique because of its glucorectic action and insulin independent action. SGLT2 inhibitors reduce blood glucose by increasing glucose excretion through urine. However it also improves beta cell function and reduces insulin resistance [5]. EMPAREG and CANVAS trial demonstrated cardiovascular benefits of SGLT2 inhibitors regarding 3 point MACE (CV death0, non-fatal MI, non-fatal stroke) reduction, reduction of hospitalization for heart failure and death due to cardiovascular disease [6,7]. The problems of SGLT2 inhibitors are genital mycosis, urinary tract infections, and a rare but serious euglycaemic diabetic ketoacidosis (DKA). Euglycaemic DKA though rare but may be an undetected unless the treating physician is aware of the condition. Genital mycosis is particularly frequent and -troublesome and leads to drug discontinuation in many cases.

Therefore patients with high cardiovascular risk may be benefitted from SGLT2 inhibitors. SGLT2 inhibitors may be soon an important and second line antidiabetic agent in the treatment of type 2 diabetes mellitus. However patients should be educated regarding the genitourinary infections arising out of the SGLT2 inhibitors.

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