

Thematic Issue for Current Pharmaceutical Design

TITLE: *“Newer antidiabetic therapies: A paradigm shift in type 2 diabetes management”*

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Aims and Scope:

Type 2 Diabetes (T2D) is a complex disorder, resulting from interactions between genetic, environmental and life-style components, that can affect quality of life and life expectancy. T2D is becoming a global epidemic, since it has been estimated that by 2025, nearly 300 million people will suffer from the disease worldwide. Despite the intensive use of antidiabetic therapies, several patients with T2D are still unable to meet glycemic targets.

During the last decade, new classes of antidiabetic drugs have emerged, including glucagon-like peptide-1 (GLP-1) receptor agonists and sodium glucose co-transporter 2 (SGLT2) inhibitors. These drugs have the potential to correct multiple of the disorder's pathogenetic abnormalities by exerting pleiotropic actions, extended beyond the classical effects of T2D therapies on insulin secretion and sensitivity. Specific agents of these therapeutic classes, apart from effectively managing glycemia, have proved remarkable renal and cardio-protective properties in large, cardiovascular outcomes trials. In addition, these drugs have been shown to exert optimal effects on overweight, obesity and related disorders, such as non-alcoholic fatty liver disease, which are commonly seen in patients with T2D. They also present a low risk of hypoglycemia, thus allowing the achievement of optimal glycemic targets with safety.

Recent advances in the understanding of T2D pathophysiology highlight the complexity of underlying mechanisms that contribute to the presentation of the disorder. The development of individualized therapeutic approaches, targeting the unique in each patient mediating pathways of obesity and hyperglycemia, represents

a challenge for future research in the field. The implication of pharmacogenetic strategies in T2D management remains, for the moment, restricted within the tight limits of experimental studies. However, initial data suggest that genetic variations are related to clinical response to various antidiabetic treatments, in terms of both weight loss and glycemic control.

The aforementioned advances in basic and clinical research of diabetes are leading to a paradigm shift in T2D management. We are gradually moving away from a glucose-centric perspective, according to which achieving glycated hemoglobin targets was considered as the “Holy Grail” of diabetes management. Moreover, we continue to search for the tools that would facilitate the transition from algorithmic to personalized diabetes therapy. Treating physicians are now able to ask for more from available treatments, offering at the same time more to their patients: lower hypoglycemia rates, pleiotropic actions, protection from diabetic micro- and macrovascular complications through mechanisms independent of glycemic control, reduction in body weight, prediction of drug safety and efficacy profiles on an individualized basis.

The thematic issue will cover recent advances in T2D pharmacological therapy, aiming to summarize existing evidence in the field, but mainly to provide the future perspective of the disorder’s management.

Subtopics: but not limited to

Therapeutics of T2D and diabetic complications, GLP-1 receptor agonists, SGLT2 inhibitors, pleiotropic effects of antidiabetic therapies, pharmacogenetics, medical nutrition therapy, use of technology in the management of T2D

Schedule:

Manuscript submission deadline: 3 June 2020

Peer-review due: 31 July 2020

Revision and final manuscript submission by the authors: 31 August 2020

Announcement of acceptance by the Guest Editors: 15 September 2020

Final manuscript due: 30 September 2020