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Indian Journal of Medical Sciences

Letter to the Editor

Selecting antihyperglycemic agents with proven safety: A must in COVID-19 era

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Received : 04 May 2020
Accepted : 18 May 2020
Published : 21 August 2020

DOI
10.25259/IJMS_76_2020

Quick Response Code:

Dear Editor,

The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) pandemic has taken the medical fraternity off their comfort zone. On the one hand, we have to deal with the high rate of infectivity of the virus while, on the other hand, it burdens us with high mortality rate in those with comorbidities. Diabetes has been identified as an independent risk factor for worse prognosis in patients admitted with confirmed SARS-CoV-2.[1] It is our duty as physicians to ensure adequate glycemic control in patients with diabetes using all the resources available.

There is ample evidence of arrhythmias induced by SARS-CoV-2 infection *per se* with prolongation of QTc interval as one of the many mechanisms.[2] This issue is compounded by the use of medications with known predilection for QTc prolongation. There has been a push for the use of hydroxychloroquine as an antihyperglycemic agent proactively in patients with type 2 diabetes mellitus.[3] In addition, drugs like teneligliptin which have not passed the thorough QTc prolongation studies are prescribed in large numbers in India.[4]

I propose the use of antihyperglycemic agents with proven cardiorenal benefits from cardiovascular outcome trials (CVOTs) and proven safety derived from thorough QTc trials be considered preferentially in the management of type 2 diabetes. It would also be prudent to switch all patients receiving drugs without safety signals from dedicated CVOTs, for example, teneligliptin, hydroxychloroquine (as antihyperglycemic agent), and remogliflozin, to drugs with proven safety [Table 1].

There has been a flurry of publications implicating medications with the potential to upregulate angiotensin-converting enzyme (ACE2), which is known to be the human receptor for SARS-CoV-2 spike protein. Glucagon-like peptide receptor analog and dipeptidyl peptidase-4 inhibitors have been implicated as offenders.[5] However, the recent publications with the use of ACE inhibitors and ARBs have suggested otherwise.[6] The anti-inflammatory benefits of these agents overwhelm the potential harm associated with their ability to upregulating ACE2.

In light of all the recently available and evolving evidences, choosing antihyperglycemic agents prudently with stress on proven safety and anti-inflammatory properties rather than taking a myopic glucocentric view would reflect good clinical practice.

Table 1: Evidence-based choice of antihyperglycemic agents as outpatient management during SARS-CoV-2 pandemic.

Proven safety±anti-inflammatory property	Safe	Safety unproven
GLP1-RA	Metformin	Teneligliptin
DPP-4i	SU	Remogliflozin
Basal Insulin	AGI	Hydroxychloroquine
SGLT-2i (to be discontinued in active cases)		Pioglitazone

GLP1-RA: Glucagon-like peptide receptor analog, DPP-4i: Dipeptidyl peptidase-4 inhibitor, SU: Sulfonylurea, AGI: Alpha-glucosidase inhibitor, SGLT: Sodium glucose cotransporter

Declaration of patient consent

Patient's consent not required as there are no patients in this study.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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How to cite this article: Ghosal S. Selecting antihyperglycemic agents with proven safety: A must in COVID-19 era. Indian J Med Sci 2020;72(2):110-1.