Initiating oral anti diabetic drug: alternatives to metformin
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Abstract
While most published articles on oral anti diabetic therapy approve of metformin, few discuss what should be done if metformin is contraindicated or not tolerated. This article defines metformin intolerance, and discusses various pharmacological options available for persons with type 2 diabetes who cannot take metformin and do not accept/require insulin.

Keywords: Metformin intolerance, type 2 diabetes, sulfonylureas, alpha glucosidase inhibitors, pioglitazone, SGLT2 inhibitors, DPP4 inhibitors.

Introduction
Most persons with type 2 diabetes initiate oral therapy with metformin. However, some patients have contra-indications to metformin, or cannot tolerate the drug. In such cases, an alternative is required. This alternative may be an oral anti diabetes drug (OAD), or an injectable therapy (insulin, glucagon-like peptide 1 receptor agonist [GLPIRA]). More often than not, an OAD is chosen for this purpose. 1

Tributes of A Good Drug For Initiation of Therapy
The diagnosis of diabetes, and the institution of pharmacotherapy, both are associated with significant psychological burden, exposure to drug therapy also brings with it the risk of side effects such as hypoglycaemia. One should, therefore, choose an initial OAD which is easy to use, needs less dose titration, requires less frequency of administration, causes less hypoglycaemia and other side effects, does not need frequent monitoring of glucose or other biochemical parameters, and is economical.

Intolerance to Metformin
Metformin intolerance is defined as the inability to tolerate clinically meaningful doses of metformin after all possible pharmaceutical preparations (IR, SR), timings of administration (before and after meal), dose distributions (once daily, twice daily, at bed time), and all possible co-

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SULPHONYLUREAS
Glipizide 2.5 – 10 mg 40 mg
Glimperide 1 – 4 mg 8 mg
Gliclazide 40-160 mg 320 mg
PIOGLITAZONE 7.5 -15 mg 45 mg

ALFAGLUCOSIDASE INHIBITORS
Acarbose 25 mg with each meal 100 mg with each meal
Voglibose 0.2 mg with each meal 0.3 mg with each meal

DPP4 INHIBITORS
Vildagliptin 50 mg OD/BD 50 mg BD
Saxagliptin 5 mg OD 5 mg OD
Sitagliptin 100 mg OD 100 mg OD
Linagliptin 5 mg OD 5 mg OD
Alogliptin 12.2- 25 mg OD 25 mg OD

SGLT2 INHIBITORS
Canagliflozin 100 mg/day 300 mg/day
Dapagliflozin 5 mg/day 10 mg/day

Table-1: Dosage of commonly used oral anti-diabetic drugs.

Conclusion
There will be a small minority of recently diagnosed type 2 diabetes patients in whom metformin is contraindicated, or not tolerated, and who do not require or accept insulin. In such patients OADs such as pioglitazone, AGIs DPP4 inhibitors and SGLT2 inhibitors may be suitable alternatives in certain situations [1,2]. A careful medical assessment is required, however before such therapy is instituted.

References