Nateglinide

A Viewpoint by Willy J. Malaisse

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Nateglinide is a non-sulphonylurea insulinotropic agent belonging to the family of so-called meglitinide analogues.[1] Conformational analysis,[2] characterisation of ionophoretic activity[3] and structures of calcium complexes,[4] detailed studies of uptake[5] and effects on nutrient catabolism,[6] cationic flux,[7] biosynthetic[8,9] and insulinotropic[10] actions in isolated rat pancreatic islet cells indicate that nateglinide owes its insulin-releasing properties to the direct inactivation of ATP-sensitive K^+ channels in islet β-cells.

Nateglinide potentiates the β-cell secretory response to nutrient secretagogues both *in vitro* and *in vivo*.[10,11] Experiments conducted in rats with hereditary diabetes and in control animals, in which an oral solution of nateglinide (50μg per kg bodyweight) was administered twice daily for 7 days, indicate that this agent minimises the risk of sustained depletion of islet cell insulin content,[12] as is observed with sulphonylureas. This view is supported by therapeutic trials. Nateglinide may therefore be considered to be a valuable new non-sulphonylurea insulinotropic agent for the treatment of type 2 diabetes mellitus. ▲

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