MEDIBEATS
The Medical Bulletin

In Diabetes

SECTION: DIABETES

TIRZEPATIDE: TWINCRETIN CONCEPT ON THE WAY TO TREAT DIABESITY

TIRZEPATIDE, A NOVEL DUAL GIP/GLP-1 RECEPTOR AGONIST (TWINCRETIN), HAS BEEN FORMULATED AS A SYNTHETIC PEPTIDE CONTAINING 39-AMINO ACIDS, BASED ON THE NATIVE GIP. TIRZEPATIDE HAS A COMPARABLE GIP RECEPTOR BINDING AFFINITY TO NATIVE GIP AND FIVE TIMES LOWER GLP-1 RECEPTOR AFFINITY THAN THAT OF NATIVE GLP-1. THE CLINICAL EFFICACY, TOLERABILITY, AND SAFETY OF TIRZEPATIDE HAVE BEEN REPORTED IN DIFFERENT RANDOMIZED CONTROLLED TRIALS (RCTS).

GLUCOSE-DEPENDENT INSULINOTROPIC PEPTIDE (GIP) IS FOUR AMINO ACID INCRETIN PEPTIDE, PRODUCED BY K-CELLS OF DUODENUM AND PROXIMAL JEJUNUM, RELEASED IN RESPONSE TO ORAL CARBOHYDRATES AND LIPID LOAD, HAVING SHORT HALF-LIFE OF 4–7 MIN AND INACTIVATED BY DIPEPTIDYL PEPTIDASE (DPP)-4 ENZYME. GIP RECEPTORS HAVE BEEN DOCUMENTED IN HEART, PANCREAS, GASTRIC MUCOSA, ADIPOSE TISSUE, BONE, ADRENAL CORTEX, AND BRAIN. UNLIKE GLP-1, GIP HAS GLUCAGONOSTATIC IN THE HYPERGLYCEMIC STATE, BUT GLUCAGONOTROPIC PROPERTY DURING NORMOGLYCEMIC AND HYPOGLYCEMIC STATE.

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