雙效 GLP-1/GIP 受體促效劑之糖尿病治療新契機

The novel dual GLP-1/GIP receptor agonist in treating type 2 diabetes

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Glucagon-like peptide 1 (GLP-1) based therapyis an established treatment option for the anagement of type 2 diabetes mellitus (T2DM) and is recommended early in the treatment algorithm owing to glycaemic efficacy, weight reduction and favourable cardiovascular outcomes. Glucose-dependent insulinotropic polypeptide (GIP), on the other hand, was thought to have no potential as a glucose-lowering therapy because of observations showing no insulinotropic effect from supraphysiological infusion in people with T2DM. However, emerging evidence has illustrated that co-infusion of GLP-1 and GIP has a synergetic effect, resulting in significantly increased insulin response and glucagonostatic response, compared with separate administration of each hormone. These observations have led to the development of a dual GIP/GLP-1receptor agonist, known as a 'twincretin'. Tirzepatide is a novel dual GIP/GLP-1 receptor agonist formulated as a synthetic peptide containing 39 amino acids, based on the native GIP sequence. Pre-clinical trials and phase 1 and 2 clinical trials indicate that tirzepatide has potent glucose lowering and weight loss with adverse effects comparable to those of established GLP-1 receptor agonists. The long-term efficacy, safety and cardiovascular outcomes of tirzepatide will be investigated in the SURPASS phase 3 clinical trial programme.