

Insulin analogues: Searching for a physiological replacement Análogos de insulina: En búsqueda del reemplazo fisiológico

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Insulin analogues, developed by molecular engineering, have structural changes in the A and B insulin chains. These modifications change their action profile, rendering insulin replacement closer to physiology. Rapid acting analogues like lispro, aspart and glulisine, are absorbed rapidly from the subcutaneous tissue to the circulation. In addition, two long acting insulin analogues have been developed: glargine and detemir. The combination of a long acting insulin, to maintain baseline levels, and multiple daily doses of a rapid acting analogue are the mainstay of basal-bolus therapy. Multiple studies have compared human insulin (NPH and regular) with insulin analogues in patients with type 1 or 2 diabetes mellitus, showing an improvement in the metabolic control, fewer hypoglycemic events and better quality of life. In summary, insulin analogues offer new therapeutic options and allow an individualized intensive treatment.