Interaction between oral hypoglycemic drugs and food.

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Abstract

Introduction: Diabetes Mellitus type 2 is one of the most prevalent pathologies. The professionals are focused on the importance of weight control, modifying lifestyles and performing pharmacological treatment to achieve good metabolic control. However, there is no clear literature explaining whether diet modifies the action of hypoglycemic drugs.

Objective: To determine, reviewing studies conducted by other authors, the interactions between hypoglycemic drugs and food.

Methods: A review in PubMed was performed with the terms *Diabetes mellitus type 2, Oral antidiabetics, Hypoglycemic drugs, Drug-food interaction, Feeding, Food interaction*. Articles published in the last 9 years were used.

Results: The most important results are: There are multiple ways in which diet modifies the therapeutic effect of antidiabetic treatments. The most important are the modifications (inhibition) of the P450 enzyme complex (specifically CYP3A4), which increases the therapeutic action of many oral hypoglycemic agents (inhibitors of DPP 4, sodium-glucose cotransporter inhibitors). The therapeutic action is also reduced by the decrease in absorption, when is combined with food with fiber.

Conclusions: The main considerations on the pharmacodynamics of antidiabetic treatments are absorption, protein binding and metabolism. Food and its components can interact with antidiabetic drugs, modifying their pharmacological characteristics and, consequently, their final effect, increasing or decreasing their potency. Food and their specific components can interact by different routes with drugs and modify their absorption, their metabolism or their elimination. Finally, drug-food interaction studies are scarce and it is important to carry out more experimental studies in order to be able to define precise indications in the area of pharmacology and nutrition.

Recent Publications

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5. Garber AJ, King AB, Del Prato S (2012). Insulin degludec, an ultra-longacting basal insulin, versus insulin glargine in basal-bolus treatment with mealtime insulin aspart in type 2 diabetes (BEGIN Basal-Bolus Type 2): a phase 3, randomised, open-label, treat-to-target non-inferiority trial. The Lancet; 379:1498–1507.
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Biography (150 word limit)

Gina Lladó Jordan has completed his PhD at the age of 27 years in *Universidad Europea de Madrid, Spain*. She works as an investigator and teacher in *Universidad Isabel I, Burgos, Spain.* She has completed 5 masters related to various aspects of health sciences. She has directed 20 Final Degree Projects and participated in multiple studies and research groups. Her main line of research is Eating Disorders and Nutrition

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Notes/Comments: