

Management of Diabetes: A Comprehensive Review with Focus on Vildagliptin

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Abstract: *Diabetes mellitus, particularly type 2 diabetes (T2DM), poses a significant global health challenge, affecting millions of individuals and straining healthcare systems worldwide. Effective management of diabetes requires a multifaceted approach, including lifestyle modifications, monitoring glycemic levels, and pharmacological interventions. Among these strategies, oral antidiabetic agents such as dipeptidyl peptidase-4 (DPP-4) inhibitors have emerged as critical tools in optimizing glycemic control. Vildagliptin, a potent and selective DPP-4 inhibitor, has garnered attention for its ability to enhance endogenous incretin activity, improving insulin secretion and reducing glucagon release. Clinical studies have demonstrated its efficacy in lowering HbA1c levels, its safety profile with minimal risk of hypoglycemia, and its favorable weight-neutral effects, making it a preferred option in specific patient populations.*

This review explores the pathophysiology of diabetes, current therapeutic strategies, and the unique pharmacological properties of Vildagliptin. Emphasis is placed on its clinical efficacy, safety, and comparative advantages over other antidiabetic drugs. Furthermore, the paper discusses the potential of Vildagliptin in addressing unmet needs in diabetes management and its role in combination therapies. By providing a comprehensive analysis, this review underscores the significance of Vildagliptin in improving outcomes for patients with T2DM while paving the way for future research and innovations in diabetes care

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