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The Fifth Face of Diabetes: Hidden Player in Dysglycemia

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Abstract

Type 5 Diabetes Mellitus (T5DM), also known as malnutrition-related diabetes, is a largely neglected and under-recognized form of dysglycemia, predominantly affecting tropical and subtropical regions. Unlike type 1 and type 2 diabetes, T5DM often develops in the context of chronic undernutrition, early-life malnutrition, and socio-economic deprivation, leading to a unique clinical and metabolic profile. Its diagnosis remains challenging due to overlapping features with other diabetes types, heterogeneous presentations, and the lack of standardized diagnostic criteria, often resulting in underdiagnosis or mismanagement. The pathophysiology of T5DM is multifactorial. Chronic nutritional deficiencies lead to impaired pancreatic beta-cell development and long-term insulin secretory defects. Concurrently, patients exhibit variable degrees of insulin resistance, altered glucose metabolism, and enhanced susceptibility to oxidative stress and inflammatory pathways. Emerging evidence suggests a role of micronutrient deficiencies (e.g., zinc, vitamin D, thiamine) and persistent metabolic programming from early-life malnutrition, which together exacerbate dysglycemia. Developing countries, particularly in South Asia—including Bangladesh-bear a disproportionate burden of T5DM, making awareness, early diagnosis, and context-specific interventions critical. Recent advances in biomarkers, metabolic imaging, and therapeutic strategies offer promise for better characterization and individualized management. Recognizing and addressing this hidden face of diabetes is essential for improving patient outcomes, guiding public health strategies, and mitigating the growing impact of dysglycemia in vulnerable populations. *[J Assoc Clin Endocrinol Diabetol Bangladesh, 2025;4(Suppl 1): S26]*

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