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Letter to Editor
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Does Type 2 Diabetes Contribute to the Risk of Alzheimer's Disease?

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Letter to the Editor

Type 2 diabetes mellitus represents a major public health issue, and its complications extend beyond the strictly metabolic and vascular domains. In older adults, type 2 diabetes is now recognized as a significant risk factor for cognitive impairment, encompassing not only vascular dementia but also Alzheimer's disease and mixed forms of dementia [1].

We report the case of a 60-year-old woman with a 24-year history of poorly controlled type 2 diabetes mellitus, complicated by mild to moderate diabetic retinopathy. She was admitted for diabetic ketoacidosis triggered by an infectious pneumonia. Information obtained from family members revealed a progressive onset of memory impairment, which prompted further neurological evaluation. Brain magnetic resonance imaging demonstrated diffuse cortical atrophy, predominantly involving the hippocampal regions, leading to the suspicion of early Alzheimer's disease. The patient was subsequently referred to the neurology department for specialized management.

An increasing body of evidence supports the existence of shared pathophysiological mechanisms between type 2 diabetes and Alzheimer's disease. Cerebral insulin resistance, impaired insulin signaling, increased β-amyloid production, oxidative stress, and chronic microvascular damage appear to play a central role in the cognitive decline observed in patients with diabetes [2, 3]. This pathophysiological overlap has led some authors to propose the concept of "type 3 diabetes" to describe Alzheimer's disease [4, 5].

Long-standing and poorly controlled diabetes therefore seems to contribute to both the development and progression of cognitive disorders. Early identification of cognitive impairment in patients with diabetes is crucial, not only because of its impact on treatment adherence and autonomy, but also to allow timely and appropriate multidisciplinary management. This clinical observation highlights the importance of increased clinical awareness of cognitive complaints in patients with long-standing type 2 diabetes.

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