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Slowly Progressive Type 1 Diabetes in the Elderly: About 3 Cases

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Abstract

Latent autoimmune diabetes in adults (LADA) is an autoimmune form of diabetes situated between classical type 1 diabetes (T1D) and type 2 diabetes (T2D). It typically affects older adults and progresses more slowly toward insulin dependence. We report three cases of elderly female patients presenting with inaugural diabetic ketosis revealing slowly progressive type 1 diabetes. These observations highlight the diagnostic challenges and clinical features of this still poorly understood entity in elderly patients.

Introduction

Latent autoimmune diabetes in adults (LADA) accounts for approximately 2 to 12% of diabetes diagnosed in adults [1, 2]. This autoimmune diabetes form is characterized by a later onset, temporary preservation of pancreatic beta-cell function, and a slower progression toward insulin dependence compared to classical T1D [3]. Clinically, LADA can be mistaken for T2D, complicating diagnosis and delaying appropriate management [4].

In elderly patients, this entity is even more difficult to recognize, as late-onset diabetes is often attributed to T2D despite the presence of autoimmunity [5]. We report three cases of elderly women presenting with inaugural diabetic ketosis, with positive anti-GAD antibodies confirming LADA diagnosis.

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Clinical Cases

Case 1

A 75-year-old woman without significant past medical history was admitted for inaugural diabetic ketosis with rapid weight loss of 20 kg over one month. Biological assessment revealed positive anti-GAD antibodies and Hashimoto's thyroiditis confirmed by anti-thyroperoxidase (anti-TPO) antibodies [6].

Case 2

An 80-year-old woman, also without notable medical history, was admitted for diabetic ketosis. Clinical examination revealed vitiligo, and laboratory tests showed positive anti-GAD and anti-TPO antibodies with normal thyroid-stimulating hormone (TSH), indicating autoimmune polyendocrine involvement [7].

Case 3

An 81-year-old woman was admitted for severe diabetic ketoacidosis triggered by COVID-19 infection. Clinical examination was unremarkable. Positive anti-GAD antibodies confirmed latent autoimmune diabetes [8].

Discussion

LADA is often underdiagnosed, especially in the elderly, due to its atypical presentation and frequent confusion with T2D. Diabetic ketosis or ketoacidosis can sometimes be the initial manifestation of this slowly progressive autoimmune diabetes [9].

Pathophysiology and Diagnosis

LADA results from a progressive autoimmune destruction of beta cells, slower than in classical T1D, explaining an initial phase of preserved insulin secretion [10]. Diagnosis relies on the presence of islet autoantibodies (mainly anti-GAD), less marked insulin resistance than in T2D, and frequent

association with other autoimmune diseases such as Hashimoto's thyroiditis or vitiligo, as seen in our patients [11, 12].

Therapeutic Management

Unlike classical T1D, which requires insulin therapy from diagnosis, LADA may initially be managed as T2D with oral hypoglycemic agents. However, insulin therapy usually becomes necessary as endogenous insulin secretion declines [13]. Some studies suggest early insulin initiation may preserve residual beta-cell function and improve glycemic control [14].

Particularities in the Elderly

The frequent coexistence of other age-related diseases and lack of awareness of LADA in this age group may delay diagnosis and worsen prognosis [15]. The acute metabolic decompensation triggered by viral infection (case 3) highlights the need for vigilance in elderly patients presenting with unexplained hyperglycemia or metabolic decompensation.

Conclusion

Slowly progressive type 1 diabetes (LADA) in the elderly represents a diagnostic challenge. Our three cases illustrate that diabetic ketosis can be the initial manifestation of this particular form of autoimmune diabetes. Screening for autoantibodies and consideration of associated autoimmune diseases are essential for accurate diagnosis and appropriate management. Increased clinician awareness will improve prognosis and allow treatment personalization.

References

1. Tuomi T, Santoro N, Caprio S, Cai M, Weng J, Groop L. The many faces of diabetes: A disease with increasing heterogeneity. Lancet Diabetes Endocrinol. 2014; 2(10): 738–748.
2. Naik RG, Brooks-Worrell BM, Palmer JP. Latent autoimmune diabetes in adults. J Clin Endocrinol Metab. 2009; 94(12): 4635-4644.
3. Fourlanos S, Dotta F, Greenbaum CJ, et al. Latent autoimmune diabetes in adults (LADA) should be less latent. Diabetes. 2005; 54(7): 2176-2182.
4. Hawa MI, Kolb H, Schloot N, et al. Adult-onset autoimmune diabetes in Europe is prevalent with a broad clinical phenotype: Action LADA 7. Diabetes Care. 2013; 36(4): 908-913.
5. Tuomi T, Santoro N, Caprio S, Cai M, Weng J, Groop L. The many faces of diabetes: a disease with increasing heterogeneity. Lancet Diabetes Endocrinol. 2014; 2(10): 738–748.
6. Weetman AP. Thyroid disease and diabetes mellitus: cause and effect or coincidence? Diabetes Obes Metab. 2004; 6(3): 193-200.
7. Kridin K, Ahmed AR. Vitiligo and autoimmune thyroid disease: a systematic review and meta-analysis. J Eur Acad Dermatol Venereol. 2018; 32(2): 294-303.
8. Rubino F, Amiel SA, Zimmet P, et al. New-onset diabetes in COVID-19. N Engl J Med. 2020; 383(8): 789-790.
9. Zhou Z, Chang L, Zhao W, et al. Clinical characteristics of latent autoimmune diabetes in adults in China. Diabetes Metab Res Rev. 2017; 33(1).
10. Zimmet P, Alberti KG, Shaw J. Global and societal implications of the diabetes epidemic. Nature. 2001; 414(6865): 782-787.
11. Pociot F, Lernmark Å. Genetic risk factors for type 1 diabetes. Lancet. 2016; 387(10035): 2331-2339.
12. Barker JM. Clinical review: Type 1 diabetes-associated autoimmunity: natural history, genetic associations, and screening. J Clin Endocrinol Metab. 2006; 91(4): 1210-1217.
13. Hals I, Bjerve KS, Søvik O, et al. Investigating optimal β-cell-preserving treatment in latent autoimmune diabetes in adults: Results from a 21-month randomized trial. Diabetes Obes Metab. 2019; 21(4): 937-946.
14. Pozzilli P, Leslie RD. The clinical and pathogenic significance of antibodies to glutamic acid decarboxylase in type 1 diabetes. Diabetes. 1994; 43(12): 1697-1706.
15. Buzzetti R, Zampetti S, Maddaloni E. Adult-onset autoimmune diabetes: current knowledge and implications for management. Nat Rev Endocrinol. 2017; 13(11): 674-686.