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How the level of antibodies against 21-hydroxylase changes with time in patients with Addison's disease

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Objectives: To investigate changes in levels of autoantibodies(Abs) against 21-hydroxylase(21OH) in APECED patients and in patients with isolated primary autoimmune adrenal insufficiency (AI) over time after manifestation of AI.

Methods: 24 patients with APECED with AI and 5 patients with isolated autoimmune AI were recruited. All patients were sampled twice. An interval time between samples was from 1 to 7 years in different patients. All blood samples were tested for autoantibodies against 210H by ELISA.



Results: All patients had positive levels of Abs against 210H in all their samples. But almost in all cases (24/29) levels of Abs were much higher in the first sample than in the second. Median of total percentage decrease of Ab's level was 55% [34;55] and median of percentage decrease of Ab's level was 55% [34;55] and median of percentage decrease of Ab's level per year was 18%[8;22]. Patients with longer duration of AI for the moment of first sample had lower level of Abs and more gradual percentage decrease.



Duration of Al, years

Pic.1 The level of antibodies against 21-hydroxylase in the first and the second samples in each patients

Pic.2 The level of antibodies against 21-hydroxylase and duration of AI by the time of the first blood sampling (p<0.05)

Conclusions: Reactivity against of 21OH was decreasing over time in most of patients with autoimmune AI, but in all tested patients the level of antibodies remained positive (above the cutoff) up to 19 years after manifestation of AI. Detection of Abs against 21OH could be reliable method for differential diagnosis of autoimmune AI.

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