ABSTRACT

Islet cell autoantibodies are associated with autoimmune insulitis and belong to the diagnostic criteria of Type 1 diabetes mellitus. However, growing evidence suggests that autoantibodies are present in other types of diabetes. Here, we focus on the autoantibody incidence in Czech patients with maturity-onset diabetes of the young (MODY) and analyze their functional relevance in terms of diabetes onset and control.

Autoantibodies against glutamic acid decarboxylase 65 (GADA) and protein tyrosine phosphatase islet antigen 2 (IA-2A) were measured in a cohort of 28 Czech patients with MODY (all confirmed by genetic testing). Selected clinical data were correlated to the status and kinetics of autoantibodies.

One quarter of patients with MODY examined (7/28; 25%) was positive for GADA or IA-2A. GADA were more prevalent (7/7) than IA-2A (1/7). The incidence of autoantibodies did not correlate with human leukocyte antigen status, nor with particular mutation in MODY genes. The patients who were positive for the autoantibodies developed diabetes later than those who were autoantibody-negative, but had worse glycaemic control. Expression of autoantibodies decreased with any improvement of diabetes compensation. Only one patient did not correspond to the above and displayed signs of combined signs of MODY and Type 1 diabetes.

The data suggest transient but highly prevalent islet cell autoantibody expression in Czech patients with MODY. The autoantibodies were found in patients with delayed diabetes onset, and in times of insufficient diabetes control. As improvement of glycaemic control was associated with a decrease in levels of autoantibodies, their presence may reflect the kinetics of β-cell destruction induced by causes other than autoimmune ones.