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J.14 Autoantibodies against cerebral gray matter in patients with insulin dependant diabetes mellitus

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Stiff man syndrome (SMS), a rare disease of the central nervous system, is often associated with endocrine disorders, e.g. with insulin-dependent diabetes mellitus (IDDM; 1). SMS-specific autoantibodies were identified. They are directed against gray matter of the brain (GMAB) and can be neutralized with glutamic acid decarboxylase. We observed a 50 year old male patient with both, SMS and IDDM. His serum contained GMAB and stained all regions of the CNS, in which gray matter was represented. The serum exhibited also islet cell antibodies (ICAb), but did not react with 22 other extracerebral human tissues, as analyzed by indirect immunofluorescence. Surprisingly, sera of 20 patients with IDDM, positive for ICAb, reacted in 5 cases with cerebral gray matter, too. In these 5 patients, islet cell as well as gray matter fluorescence could be abolished by a preincubation of the sera with homogenized human *gyrus praecentralis*. ICAb of the other 15 sera could not be neutralized. On the other hand, 20 IDDM-patients negative for ICAb and 100 healthy blood donors did not exhibit GMABs in the serum. Thus, in some patients with IDDM autoimmune reactions may take place against cerebral gray matter. The clinical association between IDDM and SMS is paralleled by serological phenomena. Furthermore, in IDDM, ICAb with different antigen specificities can be observed. The prevalence of SMS in IDDM should be reevaluated.

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