

Autoantibodies to the islet cell antigen SOX-13 are associated with duration but not type of diabetes

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AimsThe autoantigen SOX-13 of the SRY-related high mobility group box is a low-frequency reactant in sera from patients with Type 1 diabetes. We further investigated the potential diagnostic role of anti-SOX-13, and in particular its ability to distinguish Type 1 from Type 2 diabetes, in two large, well-characterized cohorts.

MethodsSOX-13 autoantibody status was ascertained using a radioimmunoprecipitation assay in (i) a random sample of 546 participants in an Australian community-based study (the Fremantle Diabetes Study; FDS) of whom 119 had Type 1 and 427 Type 2 diabetes, and (ii) a sample of 333 subjects with Type 2 diabetes from the United Kingdom Prospective Diabetes Study (UKPDS) stratified by age, anti-glutamic acid decarboxylase (GAD) and islet cell antibody (ICA) status, and requirement for insulin therapy within 6 years of diagnosis.

ResultsThe frequencies of anti-SOX-13 in the FDS subjects were 16.0% and 14.8% for Type 1 and Type 2 patients, respectively, and levels were similar. In the UKPDS subjects, the frequency was 4.5%. In a logistic regression model involving demographic, anthropometric and metabolic variables, only diabetes duration was significantly associated with anti-SOX-13 positivity, especially for duration > 5 years ($P < 0.002$). When the coexistence of autoantibodies was assessed in the two study samples, there were no significant associations between anti-SOX-13 and ICA, anti-GAD or ICA512/IA-2.

ConclusionsWhilst the frequency of anti-SOX-13 may be increased in some populations of diabetic patients, this reactivity does not usefully distinguish Type 1 from Type 2 diabetes. However, the association with diabetes duration suggests that anti-SOX-13 may be a non-specific marker of tissue damage associated with chronic hyperglycaemia.