

The new prognosis of type 1 diabetes

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Summary

Immune intervention at diagnosis of type 1 diabetes (T1D) aims to prevent or reverse the disease by blocking autoimmunity, thereby preserving/restoring beta cell mass and function. In the last year several clinical trials of non-specific and of antigen-specific immune therapies tried to demonstrate the feasibility of modulation of islet-specific autoimmunity but unfortunately only few studies were able to give positive results. In part, this failure results from the considerable disease heterogeneity associated with diverse genetic and non-genetic disease determinants and the spectrum of clinical phenotype at diagnosis.

Thus, a younger age at onset is associated with stronger genetic susceptibility, more intense immune response to beta cell antigens, shorter duration of symptoms, more severe metabolic derangement at diagnosis and a more rapid rate of beta cell destruction. Therefore, designing therapies that would be effective in all clinical settings is definitely challenging.

Over the last years new treatment options for T1D has been considered and great interest is now coming from incretins (DPPIV inhibitors and GLP1 analogs). Incretin-based therapies, since their approval, have demonstrated their clinical utilities in type 2 diabetes (T2D). GLP-1, in addition to its insulinotropic action in alleviating hyperglycemia, possesses beneficial effects in protecting progressive impairment of pancreatic beta cell function, preservation of beta cell mass and suppression of glucagon secretion, gastric emptying and appetite.

A combination therapy should be the way to tackle T1D and clinical trials in this respect are needed.