Mohammad Alhadj Ali, J Diabetes Metab 2016, 7:7(Suppl)
http://dx.doi.org/10.4172/2155-6156.C1.048

Proinsulin peptide immunotherapy in new-onset type 1 diabetes is well tolerated and associated with a reduced daily insulin dose

Mohammad Alhadj Ali
Cardiff University School of Medicine, UK

Several pieces of evidence suggest that type 1 diabetes is an immune-mediated disease. These include the HLA associations, associations with other organ-specific autoimmune diseases and autoantibodies directed against islet constituents in some 90% of newly presenting patients. Confirmation of the autoimmune nature of the disease has come from prolonging beta-cell survival after treatment with immunosuppressive agents such as ciclosporin. Generalized immunosuppressive therapy carries a long-term risk of opportunistic infection and late malignancy. Therefore, an alternative approach is required which specifically targets the autoimmune process against βcells and spares the rest of the body. Administration of short peptides corresponding to T cell target sequences (peptide immunotherapy) has been shown to be a simple and effective method of restoring tolerance and reversing disease in animal models of type 1 diabetes and has several potential advantages over other approaches to Antigen Specific Immunotherapy (ASI). Furthermore, they have shown that the ASI strategies may be effective when the relevant autoantigen is delivered as a short peptide, representing a key target (termed an epitope) of the pathological T lymphocyte response that is characteristic of the disease. Clinical trials of ASI as applied to type 1 diabetes have predominantly focused on insulin as the autoantigen, administered by a variety of routes, in the setting of secondary prevention. Here, we report the data from a clinical trial that examined the safety of intradermal administration of the naturally processed Proinsulin peptide C19-A3 (PPI C19-A3) in patients with new-onset type 1 diabetes, as well as, its immune and metabolic effects.

Biography

Mohammad Alhadj Ali did his PhD research in the field of Immunotherapy for type 1 diabetes at in the University of Bristol, United Kingdom. He is currently working as a Clinical Research Fellow in Diabetes and Endocrinology at the Diabetes Research Group in the Division of Infection and Immunity at Cardiff University School of Medicine. He was awarded with numerous travel grants and awards, and was honoured as the Donnell D Etzwiler International Scholar recipient from the International Diabetes Center (IDC) WHO Collaborating Center in 2015. His current research interests are focused on the novel approaches for type 1 diabetes and preparing the skin with topical therapies for future immunotherapy. He has also a special clinical interest in the newer agents for type 2 diabetes and obesity. He is involved in the Young Diabetologists and Endocrinologists Forum (YDEF) in the United Kingdom since 2008. He is the Founder and Co-organiser of the YDEF Wales annual meeting since 2011. He is member of the Editorial Board of the *Diabetes Research Open Journal (DROJ) and the International Library of Diabetes and Metabolism (ILDM).*

mohammad.alhadjali@doctors.org.uk

Notes: