

Immunotherapy in Autoimmune Diseases

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Abstract

Immunotherapy has the potential to modify or re-balance the immune system and hence useful in the management of autoimmune conditions. This article aims to review clinically useful immunotherapies available for treatment of autoimmune conditions, with particular emphasis on Type I diabetes mellitus, multiple sclerosis, rheumatoid arthritis and systemic lupus erythematosus. A Medline search for the period 1992 to 2002 (10 years) using the unrestricted keywords "immunotherapy AND autoimmune" was done. Full-length articles were selected for reviews based on the contents of their published abstracts. Additional Medline searches were focussed on the keywords "immunotherapy AND diabetes mellitus", "immunotherapy AND multiple sclerosis", "immunotherapy AND rheumatoid arthritis", and "immunotherapy AND systemic lupus erythematosus". Relevant publications referenced in the reviewed literature were further included for review, if not present in the original Medline search. Immunotherapy in Type I diabetes mellitus has focussed on the induction of tolerance to b cell antigens, and in multiple sclerosis trials of anti- α 4 integrins and altered peptide ligand of myelin basic protein (MBP 83-99) showed initial promising results. The use of anti-cytokine therapy (anti-TNF α and IL-1Ra) in rheumatoid arthritis has improved the quality of life of patients with refractory disease. The use of anti-CD20 monoclonal antibody for in vivo B cells depletion and early trials of autologous peripheral stem cell transplants represent additional immunomodulatory treatment modalities for systemic lupus erythematosus patients. Better understanding of autoimmune conditions and advances in the production of humanised monoclonal antibodies, promises better immunotherapy in the near future.

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