Abstracts

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AB01
Adoptive transfer of dexamethasone and vitamin D3 primed CD4+CD25+ T cells suppresses anti-dsDNA IgG production in lupus-prone MLR/lpr mice
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Regulatory CD4+CD25+ T cells are defined as subset that sustains normal immune homeostasis. The development of systemic lupus erythematosus (SLE) has been recently associated with altered frequencies and numbers of regulatory T cells in the peripheral blood. We investigated the action of dexamethasone (Dex) and vitamin D3 (VitD3) on the functions of CD4+CD25+ T cells and the effect of their adoptive transfer to lupus-prone MLR/lpr mice. The frequencies of CD4+CD25+ T cells in the spleen of 12, 16 and 18 weeks old MLR/lpr mice were similar. CD4+CD25+ T cells inhibited the proliferation of responder CD4+CD25-T cells and Dex and VitD3 enhanced this suppressive effect. When CD19+ B cells isolated from sick MLR/lpr mice were cultured in the presence of supernatants from regulatory-responder T cell co-cultures, the numbers of B cells secreting anti-dsDNA IgG antibodies decreased. The adoptive transfer of Dex and VitD3 primed CD4+CD25+ T cells to sick 18 weeks old MLR/lpr mice was more effective in reducing the serum levels of anti-dsDNA IgG antibodies than the transfer of pure CD4+CD25+ T cells. Similar decrease in the production of anti-dsDNA IgG antibodies was observed after short-term administration of Dex (0.20 mg/kg) and VitD3 (0.1 mg/kg) to sick MLR/lpr mice. Our data pointed out that rather the enhanced regulatory capacity of CD4+CD25+ T cells is important to inhibit unwanted immune responses than the increased numbers of regulatory T cells. This approach can be use as a novel therapeutic tool for the treatment of SLE.

AB02
Level and characteristics of natural T regulatory cells in vascular-connective autoimmune diseases
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The contribution of natural T regulatory (Tr) cells to the development of autoimmunity became most evident in the last years. However, there is not enough information regarding the role of natural Tr cells in the development of vascular-connective autoimmune diseases. Natural Tr cells constitute a homogenous population, derived from thymus, phenotypically characterized by CD25 high  CTLA-4+ GITR high CD45RO+, and molecular marker FOXP3. Cells with this phenotype are regulatory/suppression cells and play a major role in the maintaining of immune tolerance. Based on these evidences, we initiated a study on some vascular-connective autoimmune diseases [Systemic Lupus Erythematosus (SLE), Systemic sclerosis (Sc) and Sjögren’s Syndrome (SS)] in order to evaluate the level of natural Tr cells in peripheral blood mononuclear cells. For this purpose, FACS analysis was used. Preliminary results, in comparison with healthy subjects, suggested that in all of these pathologies there is a reduced level of natural Tr cells, more significant in SLE and SS patients. Important alterations in the expression of GITR and intracellular CTLA-4 receptors on Tr cells of SLE and Sc patients were found. The significance of these results will be discussed.

AB03
Increased nitric oxide production regulates T cell function in rheumatoid arthritis
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Experimental and clinical evidence for T cell involvement in the pathology of rheumatoid arthritis (RA) is compelling, and points to a local dysregulation of T cell function in the inflamed joint. Nitric oxide (NO) has been shown to regulate T cell function under physiological conditions, but overproduction of NO may contribute to lymphocyte dysfunction in RA. Impaired responses to stimulation with antibodies to the CD3 complex of the T cell receptor (TCR), as well as decreased production of interleukin-2 (IL-2) and interferon-γ (IFN-γ) following...