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Does alpha-fetoprotein adjust Treg / Th17-balance in Pregnancy?

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During pregnancy, the mother's immune system undergoes alloimmunization with fetoplacental antigens. As a result, a dynamic state of immune tolerance is formed, in the maintenance of which an important role is played by fetoplacental proteins, in particular alpha-fetoprotein (AFP). It is known that normal pregnancy is accompanied by the predominance of Treg over Th17, the reverse situation is associated with pathological processes. The aim of the study was to evaluate the effect of AFP on the differentiation of Treg and Th17 *in vitro*. Firstly, CD4+ lymphocytes were obtained from healthy women of reproductive age (n = 11). AFP, isolated from the blood serum of pregnant women ("Bialexa", Russia) was used in doses 10, 50, 100 IU/ml. Treg and Th17 were differentiated from CD4+ lymphocytes according to conventional methods. After 72 h, the expression of FOXP3/RORyt was evaluated. In supernatants of Th17 cultures, the cytokine profile was assessed using the Luminex platform. Thus, in the experimental model used in the present study, no obvious AFP effects on Treg / Th17 differentiation were found. Apparently, other factors influence the regulation of the balance of Treg / Th17 during pregnancy. However, AFP increased the production of IL-2 required for the development of Treg-activated Th17, and reduced the level of IFN- γ , which can be interpreted as contribution to the formation of immune tolerance. In general, the data obtained broaden the concept of the role of serum AFP in the formation of peripheral immune tolerance during pregnancy.

Biography

Zamorina S.A., PhD, Dr.Sci.Biol. He is the Senior Researcher in the Laboratory of the Ecologic Immunology by IEGM UB RAS (Perm, Russia) and ass.prof. of Chair of Microbiology and Immunology at Perm State National Research University, special lectures "Clinical Immunology and Allergology". He has published more than 35 papers in reputed journals (Scopus indexed, ID 6507973926). The scope of scientific interests concerns the regulation of the immune system by fetoplacental proteins

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