

The roles of soluble CD26 and CD30 in recurrent spontaneous abortions

Hadinedoushan H. (Ph.D.)¹, Jafarishakib R. (M.D., Ph.D.)², Aflatounian A. (M.D.)³.

1- Assistant Professor, Department of Immunology, Faculty of Medicine, Shahid Sadoughi University of Medical Sciences & Health Services, Yazd, Iran.

2- Assistant Professor, Department of Immunology, Gilan University of Medical Sciences & Health Services, Gilan, Iran.

3- Associate Professor, Department of Gynecology, Faculty of Medicine, Shahid Sadoughi University of Medical Sciences & Health Services, Yazd, Iran.

Abstract

Introduction: Some studies on human beings have suggested that during normal pregnancies an increase in the number of Th2 cells and in women with recurrent spontaneous abortions (RSA) an increase in Th1 cells takes place. The Cross-link of CD26 and CD3 on T-cells with immobilized monoclonal antibodies results in T-cell proliferation and IL-2 (Th1 cytokine) production. CD30 has been described as being preferentially expressed, and sCD30 preferentially released by human T-cells that produce Th2-type cytokines. The objective of this study was to determine whether serum levels of soluble CD26 (sCD26) and CD30 (sCD30) as markers of Th1 and Th2, alter in patients with a history of recurrent spontaneous abortion (RSA), and whether there is any correlation between cytokine production by stimulated peripheral blood mononuclear cells (PBMCs) and serum levels of soluble CD26 and CD30.

Materials and Methods: This was a case-control study on two different groups of people referred to Yazd Research and Clinical Center for Infertility. The case group consisted of 21 women with at least 3 abortions. The participants were visited on the day of their last abortion. The control group consisted of 32 pregnant women without any abortions and with a history of at least one successfully terminated pregnancy. The serum levels of sCD26 and sCD30 and levels of IL-2, IL-4, IL-10, IL-13 and IFN γ in the cell culture supernatant were evaluated by ELISA method and then they were compared.

Results: The levels of sCD26 and sCD30 were similar in women with RSA and in the controls. The production of IL-2 by PBMCs in women with RSA was higher than that of the controls ($p=0.001$) but the level of IL-10 was higher in the controls than women with RSA ($p=0.002$). There was no correlation between the levels of sCD26, sCD30 and cytokines in the two groups.

Conclusion: The findings indicate that the serum levels of sCD26 and sCD30 are no indicators for RSA but the elevation of IL-2 and decrease of IL-10 in women with RSA may be considered as risk factors for recurrent spontaneous abortions.

Key Words: RSA, sCD26, sCD30, Cytokine.

Corresponding Author: Dr. Hadinedoushan, Hossein, Yazd Research & Clinical Center for Infertility, Safaieh, Yazd, Iran.

E-mail: hossein.hadinedoushan@adelaide.edu.au