



Characteristics of immune cell changes before and after immunotherapy and their clinical significance in patients with unexplained recurrent spontaneous abortion

L. Gao¹, J.P. Zhang², H. Chen², S.N. Zhang², L.B. Chen², J.P. Tan²,
M.L. Liu², L.L. Meng², Y.H. Wang², R. Zhang², Y.L. Liu² and W.B. Cai³

¹Department of Clinical Laboratory, First Affiliated Hospital,
Sun Yat-sen University, Guangzhou, China

²Department of Obstetrics and Gynecology,
Sun Yat-sen Memorial Hospital of Sun Yat-sen University, Guangzhou, China

³Department of Biochemistry, Zhongshan Medical School,
Sun Yat-sen University, Guangzhou, China

Corresponding author: W.B. Cai
E-mail: weibincai@163.com

Genet. Mol. Res. 13 (1): 1169-1178 (2014)

Received December 18, 2012

Accepted July 25, 2013

Published February 27, 2014

DOI <http://dx.doi.org/10.4238/2014.February.27.1>

ABSTRACT. To investigate the characteristics of immune cells before and after immunotherapy and their clinical significance in patients with unexplained recurrent spontaneous abortion (URSA), an analysis of 67 URSA patients, 67 sporadic spontaneous abortion (SA) patients, and 22 normal nonpregnant women (as controls) was conducted. URSA patients underwent immunotherapy using paternal lymphocytes. Peripheral blood from patients and controls was examined for lymphocytes and other markers of immune status. Before the immunotherapy, lymphocyte counts, CD4:CD8 cell ratios, and the relative proportion of natural killer (NK) cells were significantly higher in the URSA patient group than in the SA patient

and control groups ($P < 0.05$). After the therapy, all of these three measures were decreased, whereas the percentage of T cells was increased, and statistically significant differences before and after the immunotherapy were detected ($P < 0.05$). Therefore, the immune system appears to be activated in the URSA patients, and the abnormal immunologic state in the URSA patients is more severe than in the SA patients. The alterations in T and NK cells may be involved in the etiopathogenesis of URSA. Lymphocyte immunotherapy appears to be an effective treatment for URSA patients.

Key words: Immune cell; Unexplained recurrent spontaneous abortion