Increased CD56+ NK cells and enhanced Th1 responses in human unexplained recurrent spontaneous abortion

Y. Gao and P.L. Wang

Department of Gynaecology, Guizhou Provincial People’s Hospital, Guiyang, Guizhou Province, China

Corresponding author: P.L. Wang
E-mail: pinglingwang5000@sina.com

Received August 16, 2015
Accepted October 8, 2015
Published December 22, 2015
DOI http://dx.doi.org/10.4238/2015.December.22.36

ABSTRACT. Recurrent spontaneous abortion (RSA) is reported to be associated with immune imbalance at the maternal-fetal interface. Immune cells in the decidual tissue are involved in maintaining immune tolerance during pregnancy; however, whether natural killer (NK) and T cells are altered in unexplained RSA (URSA) remains unknown. In this study, we compared the number and percentage of CD56+ NK cells, CD4+ T cells and CD8+ T cells by flow cytometry in 30 URSA patients and 30 normal pregnant controls. We found that there are a higher proportion of CD4+ T cells and CD16+CD56+ NK cells and a lower number of CD8+ T cells in the decidual tissue of URSA patients compared to normal controls. In addition, the number of T helper type 1 (Th1) cells and the Th1/Th2 ratio were higher in URSA patients compared to normal pregnant controls. In conclusion, our results indicate that the changes in the proportion of local T lymphocyte subsets, NK and Th1 cells, in the maternal-fetal interface may be related to occurrence of URSA.

Key words: Immune tolerance; Maternal-fetal interface; Natural killer cells; T helper cells; Unexplained recurrent spontaneous abortion