$CD4^{+}CD25^{bright}$ regulatory T cells in peripheral blood of patients with preeclampsia

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Objective : Recently, regulatory T cells were known to suppress immune responses and play a major role in controlling immune self reactivity. And also, decrement of regulatory T cells was associated with recurrent abortion and various autoimmune diseases. So we were to evaluate the changes of regulatory T cell subset in cord blood and peripheral blood of preeclampsia which clinical manifestation was akin to immunologic allograft rejection.

Methods : From September 2005 to March 2006, we investigated regulatory T cell distribution in peripheral blood of 14 members of severe preeclampsia (group Ⅰ), 6 members of mild preeclampsia (group Ⅱ), 21 members of matched normal pregnant control (group Ⅲ) and 4 members of non-pregnant control (group Ⅳ) using flowcytometry.

Results : Regulatory T cell ($CD4^{+}CD25^{bright}$) population was significantly higher in peripheral blood of severe preeclampsia than normal pregnant group (group Ⅰ=3.2%±1.6, group Ⅱ=1.9%±1.8, group Ⅲ=2.0%±1.1, group Ⅳ=2.4%±0.6, group Ⅰ vs group Ⅲ, p=0.02). But there were no statistically significant differences between other groups.

Conclusion : In contrary to our expectation, severe preeclampsia showed significantly increased regulatory T cell population. It seems that compensation mechanism may be involved these findings or other unknown mechanism may exist.