The changes of CD4+CD25+ regulatory T cell in preterm labor

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목적: Regulatory T cells are known to suppress alloimmune responses during pregnancy and post-organ transplantation. The aim of this study was to evaluate the changes of the regulatory T cells in women with preterm labor compared with normal pregnant women and healthy non-pregnant women.

방법: Women with preterm labor were enrolled to this study (n=17). The blood was withdrawn before tocolytic treatment and dexamethasone. Uneventful pregnant women (n=5) and health non-pregnant women (n=15) were served as control. Whole peripheral blood mononuclear cells (PBMC) were isolated by Ficoll-Hypaque gradient centrifugation and analyzed by flow cytometric analysis. Intracellular FoxP3 measurement, cell surface marker CD4 and CD25 detection were performed.

결과: In normal pregnant women, CD4+CD25+ T cells, CD4+CD25+high T cells were not different with non-pregnant control group. However, Foxp3+/CD4+ T cells were significantly increased compared to non-pregnant women. (P-value=0.01) In women with preterm labor, CD4+CD25+high T cells, CD4+CD25+highFoxp3+ T cells were significantly decreased compared to non-pregnant women. (P-value=0.03, 0.03) Compared with normal pregnant women, Foxp3+/CD4+CD25+high T cells were significantly decreased in women with preterm labor. (P-value=0.03)

결론: The change of regulatory T cell population during pregnancy could be related with maintenance of pregnancy. Decreased Foxp3+/CD4+CD25+high T cells were significantly related with preterm labor.

Fetal heart rate parameters in pregnancy complicated by gestational diabetes mellitus

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목적: The aim of this study was to evaluate various fetal heart rate (FHR) parameters of nonstress test (NST) and after vibroacoustic stimulation test (VAST) in pregnancies complicated by gestational diabetes mellitus (GDM), and to assess the relationship of GDM to antepartal fetal status using a computerized FHR analysis system.

방법: We surveyed all NST data acquired using a computerized FHR analysis system at Hanyang University Hospital between 2006 and 2010, and selected 214 GDM cases. NST and VAST were performed between 34 and 42 weeks of gestation. We randomly selected 1547 control group cases with matching maternal and gestational ages from our FHR database performed both NST and VAST simultaneously. Perinatal outcomes were compared, and the values for each FHR variable were compared between groups using Student's-t test. All data are expressed as the mean ± standard error, and p<0.05 was considered significant.

결과: Apgar scores at 1 minutes and 5 minutes were lower in GDM group than normal group. Birth weight in GDM group was heavier than that of normal group. The deceleration parameter of NST was significantly lower in GDM group than normal group (0.62±0.11 vs 0.88±0.05, p=0.0303). All other indices of NST in GDM group were low, but statistically insignificant. All FHR indices of VAST were not statistically different. The number of deceleration in GDM group is smaller than that of normal group according to the gestational age at NST. However, the number of deceleration at NST and VAST in GDM group according to the gestational age is not statistically different.

결론: It might be considered to reflect a manifestation of delayed vagal maturation in the autonomic nervous system of fetuses in diabetic pregnancies, especially down-regulation of FHR, although they seem to have relatively good central nervous system maturation or neurobehavioral development.