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Paper Poster Session
Cellular immunity as marker of viral infection

Decidual T-cell subpopulations in viraemic pregnant women with chronic HBV infection with or without HBV-DNA presence in cord blood

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Background: Decidual CD8 (+) T cells form the largest population of T cells at the fetal–maternal interface. The aim of the study was to evaluate the presence of T-lymphocytes (CD3, CD4, CD8), using immunohistochemistry, in term placentas of chronic HBV infected women and to correlate them with maternal HBV-DNA levels during perinatal period as well as with HBV-DNA positivity of cord-blood.

Material/methods: Fifty, otherwise healthy, pregnant women with chronic HBV infection (13 with HBV-DNA≥10.000 IU/ml and 37 with HBV-DNA<10.000 IU/ml during perinatal period), with singleton pregnancies, who gave full-term (>37 weeks) birth were evaluated. During labor cord blood samples for HBV-DNA detection as well as placenta tissue for pathological as well as immunohistochemical study were collected.

Results: Cord blood HBV-DNA was positive in 10 and negative in 40 samples. As expected, cord blood HBV-DNA positivity was significantly correlated with maternal HBV-DNA levels (p=0.001). Desidual CD8 (+) T-cells were significantly higher among women with low viremia compared to those with high viremia (11.25±7.2 vs 6.46±3.84 HPF, p=0.043, respectively) as well as in those with undetectable cord blood HBV-DNA compared to the ones with detectable HBV-DNA (11.00±6.45 vs 4.86±3.00 HPF, p=0.011, respectively). Birth weight was comparable among neonates from women with high or low viremia (3.158 vs 3.287 kg, p=0.428, respectively) as well as among those with detectable or undetectable cord blood viremia (3.170 vs 3.391 kg, p=0.39, respectively).

Conclusions: Decidual CD8(+) T cells are depleted in highly viremic pregnant women with chronic HBV infection as well as in those with detectable HBV-DNA in cord blood.