J Neonatal Biol 2017, 6:3(Suppl)
DOI: 10.4172/2167-0897-C1-006

The investigation on the protective role of regulatory T cells in LPS induced fetal liver damage in late pregnant mice

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To evaluate the role of regulatory T cells (Tregs) on the liver inflammatory response in a lipopoly- saccharide (LPS)-induced preterm birth mouse model. The LPS-induced preterm birth mouse model was established. Before LPS treatment, Tregs were insulated from pregnant mice and inoculated into different pregnant mice. The expression of Heme oxygenase-1 (HO-1), fork head family transcription factor (Foxp3) and interleukin-6 (IL-6) in liver, were examined by real-time reverse transcription polymerase chain reaction and western blotting. The mRNA and protein expression levels of, HO-1 and Foxp3 in liver from LPS-treated mice was considerably reduced equated with the controls, while the adoptive transfer of Tregs expressively rescinded the changes in the expression of the above said elements after LPS treatment. Fascinatingly, the expression of IL-6 in the liver was meaningfully elevated after LPS treatment, and the adoptive transfer of Tregs obstructed this effect. The preterm birth was remarkably persuaded after maternal LPS exposure, and affected the expression of Foxp3, HO-1and IL-6 in liver tissue. Furthermore, the adoptive transfer of Tregs absolutely abolished the changes in the expression of the above factors after LPS treatment. However, further study is needed to understand the mechanism of Tregs to prevent the liver inflammation in preterm birth in human.

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