

High-dose vascular endothelial growth factor increases surfactant protein gene expressions in preterm rat lung

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摘要.

AIMS: To investigate the effects of intra-amniotic vascular endothelial growth factor (VEGF) treatment on surfactant pool sizes and surfactant protein (SP) gene expressions in fetal rat lung. **METHOD:** On the 18th day of gestation, an abdominal midline incision was performed on timed pregnant Sprague-Dawley rats and the two uterine horns were exposed. VEGF (2.5 microg or 5.0 microg) and saline were injected into the amniotic cavity of the left and right uterine horns, respectively. On the 19th day of gestation, fetuses were delivered by caesarean section. **RESULTS:** We analyzed the data between the fetuses within the same dam in each group. Mean fetal body weight and lung tissue saturated phosphatidylcholine and total phospholipids were comparable between control and VEGF-treated rats at each VEGF dosage. Lung SP mRNA expressions were comparable between control and VEGF 2.5 microg-treated rats. VEGF 5.0 microg treatment increased lung SP mRNA expressions and the values were statistically significant for SP-B and SP-D mRNAs when compared with the control rats. **CONCLUSIONS:** These results suggest that VEGF might have potential therapeutic implications in enhancing fetal lung maturation.