

The preterm lungs and perinatal stress

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The preterm lungs and perinatal stress:

Insights into the role of aberrant endogenous stem/progenitor cells and exogenous cell-based treatment

Helene Widowski

1. The reduction in number and the adverse functioning of endogenous pulmonary epithelial stem/progenitor cells induced by chronic and acute intrauterine inflammation form a novel mechanistic explanation for postnatal injury. (This thesis)
2. Pulmonary outcome after prenatal inflammatory stress is determined by both the combination of stressors as well as time point of exposure to these stressors. (This thesis)
3. Intravenous administration of MAPC between pre- and postnatal pro-inflammatory insults effectively prevents impairment in lung function. (This thesis)
4. Early identification of prenatal disturbances and early treatment strategies thereof in premature infants reduce postnatal injury in these infants and, hence, provide them with a better start into the future. (This thesis)
5. Artificial wombs have the potential to safely push the starting point of life even further down than the current 24 weeks gestational age.
6. Scientific progress will be increased by making research results, inclusive negative findings, publicly better available and by overcoming global competition between research groups.
7. Just like preterm neonates, prematurely delivered lambs require tenderness, love and care for a potentially easier start in life, especially when/while connected to a ventilator. (Experience from the Lamb Intensive Care Unit)
8. Research is a dynamic process and to solve the initial problem we need to evolve, rethink and redirect our questions and paths constantly. (Adapted from Albert Einstein)
9. A lack of knowledge creates curiosity and dedication.