DSPC and SP-B were isolated from TA. DSPC amounts, ^2H -palmitate and ^{13}C -leucine enrichments were measured by gas chromatography mass spectrometry.

Results: DSPC amount and kinetics have been measured in 17 newborns, and SP-B kinetics in 18. DSPC median (interquartile range) fractional synthesis rate (FSR) was 5.0 %/day (3.5-8.5) in CDH patients vs 6.1 %/day (5.8-7.0) in controls ($p=0.31$). DSPC secretion time (ST) was 10.7h (6.9-11.5) vs 7.9h (5.2-14.0) ($p=0.65$).

SP-B FSR was 33.4 %/day (28.4-42.9) vs 52.0 %/day (40.0-83.4) ($p=0.03$); SP-B peak time was 26h (24-32) vs 18h (15-21) ($p=0.02$), both significantly lower in the CDH group. SP-B ST was 6.1h (4.0-9.9) vs 2.7h (1.1-7.1) ($p=0.24$), and half life 7.5h (5.2-9.1) vs 11.1h (5.8-17.3) ($p=0.33$).

Conclusions: Decreased and delayed SP-B synthesis was found in newborns with CDH compared to controls while DSPC kinetics was similar in both groups, which may contribute to severe respiratory failure in these patients.

496

MUTATIONS OF SURFACTANT-RELATED GENES SP-B, SP-C AND ABCA3 IN UNEXPLAINED ALVEOLAR/INTERSTITIAL LUNG DISEASE IN NEWBORN AND INFANTS

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Aims: To determine the role of surfactant-related gene anomalies in neonatal/infantile interstitial lung disease.

Methods: 22 infants >32weeks/< 1year with unexplained progressive alveolar/interstitial lung disease. SP-B, SP-C and ABCA3 sequencing. Optical (OM) and electronical (EM) microscopy of biopsy/autopsy lung tissue. Surfactant proteins immunofluorescence.

Results: 13/22 infants (59.1%) had lamellar bodies (LB) ultrastructural abnormalities suggesting genetic surfactant deficiency. Eleven infants (50.0%) carried ABCA3 mutations.

-Five (22.7%) had bi-allelic mutations (2 homozygote frameshift, 3 double heterozygote missense),

showing small, dense LB with 1-2 denser cores and no normal LB on EM.

-Five (22.7%) had a single mutation (four missense, one intron), showing a mix of small and normal LB plus multivesicular bodies (MVB) on EM. On immunofluorescence, one had cytoplasmic mislocation of TTF-1 despite normal TTF-1 gene sequence, one had altered cleavage of proSP-B into SP-B, and one had reduced/misplaced alveolar capillaries.

-One infant (4.5%) carried a heterozygote SP-C mutation, plus a synonymous ABCA3 mutation, showing large, empty LB lacking normal surfactant layers on EM.

-One infant (4.5%) with normal LB + MVB had a heterozygote SP-B mutation.

-One infant (4.5%) with small dense LB (similar to homozygote ABCA3 mutants) had no mutation identified.

In the 9 remaining infants (40.9%), one had alveolar proteinosis, one had COX-deficiency, one had Niemann-Pick C disease, two had idiopathic pulmonary fibrosis, four remained cryptogenetic.

Conclusions: ABCA3 mutations are the most frequent abnormality. Although EM is indicative in most (92%) cases, molecular mechanisms are elusive in >50% of cases, likely involving complex, multiple surfactant-related gene interactions.

497

ROLE OF CORD STRESS HORMONE LEVELS FOR DEVELOPING TRANSIENT TACHYPNEA OF NEWBORN IN CESAREAN DELIVERED LATE PRETERM AND TERM INFANTS

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Background and aims: Failure of adequate and timely clearance of fetal lung fluid results in transient tachypnea of newborn (TTN). Of the several factors that have been proposed to effect sodium reabsorption some have been investigated including glucocorticoids, oxygen, catecholamines, thyroid hormones, surfactant. The aim of this study was to investigate the role of cord stress hormones;

ACTH, cortisol, adrenalin, sT3, sT4, TSH in the development of TTN in CS delivered late preterm and term infants.

Methods: Study was designed as a prospective and sectional study. The information about all of the deliveries taking place in our center between September 2008-July 2009 were recorded. Study group consisted of 37 CS delivered late preterm and term infants with the diagnosis of TTN. Thirty three gestational age matched CS delivered consecutive infants without the diagnosis of TTN delivered after each study case constitutes the control group. At birth 10 ml of cord blood were collected from all CS deliveries of late preterm and term infants for analysis of serum cortisol, ACTH, sT3, sT4, TSH and adrenalin levels.

Results: Though there was no significant demographic difference between our patient and control groups, cord ACTH, cortisol, sT3 were significantly low and adrenalin was high in the study group ($p < 0.05$).

Conclusions: Lower cord cortisol, ACTH, sT3 in patients with TTN indicate the possible role of these hormones in fetal lung fluid clearance and postnatal pulmonary adaptation through their modulatory effect on ENaC and NaK ATPase.

498

INTRATRACHEAL PERFLUOROCARBONS ALTER TNFA AND VEGF EXPRESSION IN AT-II CELLS DURING PMA-INDUCED SYSTEMIC INFLAMMATION

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Background: 20-40% of extremely preterm infants develop BPD. Besides "relative" hyperoxia, inflammation is a major contributor to the pathogenesis of BPD. Perfluorocarbons (PFC) can reduce oxidative stress and have anti-inflammatory properties. Until now the mechanism of PFC action on cellular level is not completely understood.

The aim of this study was to elucidate the impact of PFC on Alveolar type II (AT-II) cells in vivo in an animal model of inflammation-induced BPD.

Methods: Newborn rats received 500µg/kg bodyweight Phorbol 12-Myristate 13-Acetate (PMA) intraperitoneally and either air (*PMA/air*) or 50µl Perfluorodecalin (*PMA/PFD*) intratracheally. Healthy control animals were injected intraperitoneally with 0.2% DMSO (*Control*). After 24h AT-II-cells were isolated. I.) Proportion of TNFα-positive cells was assessed by fluorescence-immunocytochemistry. II.) Expression of TNFα, VEGF and VEGFR1 was analysed using real-time PCR. Data arise from 3 independent experiments.

Results: I.) $37 \pm 2.3\%$ of AT-II-cells showed TNFα-positive staining in the *PMA/air* group. In the *PMA/PFD* group $22.3 \pm 4.0\%$ of AT-II-cells were TNFα-positive ($p=0.01$) (*Control* $16 \pm 1.5\%$). II.) Compared to *Control*, TNFα expression in the *PMA/air* group was 2.8-fold higher (*PMA/PFD* group 1.1-fold). Expression of VEGF in *PMA/air* was 0.8-fold, in *PMA/PFC* 0.3-fold of *Control*. Expression of VEGFR1 in *PMA/air* was 1.6-fold, in *PMA/PFC* 2.7-fold higher than in *Control*.

Conclusion: PMA-induced systemic inflammation leads to an increase of TNFα Protein and mRNA in AT-II-cells, which can be diminished by intratracheal application of PFC. Reduced expression of VEGF in AT-II-cells during inflammation was not restored by PFC, but may be compensated by the higher VEGFR1 expression.

499

RELIABILITY AND VALIDITY OF TURKISH VERSION OF THE CHILD FEEDING QUESTIONNAIRE

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Background and aims: The aims of this study were to adapt the CFQ culturally and to assess its psychometric properties. The Child Feeding Questionnaire (CFQ) is a self-report measure to assess parental beliefs, attitudes and practices regarding child-feeding.

Methods: CFQ was translated into Turkish according to the guideline for the cross-cultural adaptation process and used with permission