expression patterns. Ethical approval was granted by the Regional Committees for Medical and Health Research Ethics in Norway.

Results: CYP450 gene expression was significantly altered about 6 weeks postnatally between preterm infants (n=18) born at early (GA 25.2-28.6 wks) versus late (n=23) GA (29.0-33.6). Thirteen CYP450 genes, including those metabolizing commonly used drugs, such as CYP1A2 (p=0.0112) and CYP3A4 (p=0.0424), differed in expression levels. No significant differences in CYP450 gene expressions among preterm males and females were found.

Conclusion: We identified significant differences in CYP450 gene expression levels in preterm infants 6 weeks postnatally depending on GA. In particular CYP1A2 and CYP3A4 are interesting candidates for explaining variable drug response in preterm infants. Further investigation is needed to explore the role of these differences related to drug metabolism.

810

ASSOCIATION OF MATRIX METALLOPROTEINASE 2 AND TIMP-2 GENE POLYMORPHISMS WITH DEVELOPMENT OF BRONCHOPULMONARY DYSPLASIA IN PRETERM INFANTS

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Background and aims: Bronchopulmonary Dysplasia (BPD) is considered to be a consequence of prematurity, pulmonary baro/volutrauma, hyperoxia and inflammation. Increased inflammatory response and lung repair with impaired alveolarization and vascularisation are largely determined by genetic variability. Metalloproteinases are endopeptidases with key role in extracellular matrix remodeling as occurs during lung development and repair after injury. The aim of this study was to assess the influence of MMP-2 and TIMP-2 genetic polymorphisms on the risk of BPD.

Methods: 95 preterm neonates with a gestational age of ≤32 weeks and birth weight ≤1500g were

included in this prospective study. For the evaluation of phenotypic effect 215 term healthy neonates were additionally included. Out of 95 premature infants 47 developed BPD according to NIH criteria. 7 neonates died before time of assessment presenting severe lung damage. Using SNP TaqMan assays -1306C/T MMP-2 and +853G/A TIMP-2 polymorphisms were genotyped in DNA extracted from blood samples.

Results: Analysis of genetic variability in preterm neonates showed difference in distribution of genotypes at -1306C/T MMP-2 position. C/T and T/T genotypes were more frequent in neonates developing BPD or in those who died. Additionally T allele presence was associated with prolonged ventilation time and hospitalization duration at NICU. No difference in +853G/A TIMP-2 polymorphism frequency was found between tested groups.

Conclusions: Based on presented data and multigenetic background of BPD, genetic variability of MMP-2 may be one of the contributory factors in development of bronchopulmonary dysplasia.

811

PROGRESSIVE MUSCULAR DYSTROPHY: CLINICAL AND GENETICAL STUDY

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Background and aims: Progressive muscular dystrophies represent a group of genetic diseases with insidious onset in childhood; they are characterized by muscle fatigue associated with pseudohypertrophy of the muscles, high level of creatin kinase; electrophysiological, histological and molecular biology studies distinguish the primary disorder of the muscles.

Methods: Prospective study that included 16 patients (1-5 years old) in a period of 2 years (2006-2008). Patients were evaluated clinically, functionally, paraclinical (muscle enzyme), neurophysiology. In all patients muscle biopsy was performed and in 8 cases genetic tests.

Results: In this trial 12 children (75%) had pseudohypertrophy of calf muscles, 8 children (50%) had signs of muscular disease (the weakness of proximal muscles, a positive Gowers's sign), 5 children (31.25%) had increased