VP as an educational tool. Respondents were asked to rate their agreement with each statement on a 1 to 4 likert scale.

Results: All participants (N=25) completed the questionnaire. 100% of participants agreed or strongly agreed that the case was enjoyable, interactive and appropriate for their level of training and a valuable use of their time. Upon completion of the case, most participants reported greater self confidence in their ability to recognize (23/25) and report (24/25) cases of suspected child abuse. All participants felt that the VP helped raise their awareness of the difficulties surrounding the diagnosis and management of child abuse and enabled them to identify deficits in their knowledge.

Conclusion: There was an overwhelmingly positive response to the VP. The vast majority of participants reported improvements in their knowledge, confidence and attitude towards the management of child abuse.

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INDIRECT COSTS CAUSED BY ACUTE ROTAVIRUS GASTROENTERITIS IN SPAIN

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Background and aims: Impact of rotavirus in developed countries is mainly economic. The aim of this study was to assess the indirect costs induced by rotavirus acute gastroenteritis (RAGE) in Spain.

Methods: A prospective observational study was conducted from Oct-2008-to-Jun-2009 including 682 children up to 5 years-old with AGE attended in primary care (n=18), and emergency-room and hospital settings (n=10), covering the regions of Galicia and Asturias (North-West Spain). All non-medical expenses incurred were recorded in detail using personal interviews and telephone contacts.

Results: Of 682 enrolled children, 207(30.4%) were rotavirus positive and 152(22%) had received at least one dose of rotavirus vaccine. The mean (standard deviation) indirect cost caused by an episode of AGE was estimated at 135.17(182.70) euros. Costs were 1.7-fold higher when acute gastroenteritis was caused by rotavirus as compared to other etiologies: 192.7(219.8)euros vs.111.6(163.5)euros (p< .001).The costs for absenteeism were the most substantial with an average of 91.41(134.76)euros per family, resulting from the loss of 2.45(3.17) days of work. In RAGE group the cost was 120.4(154)euros compared to 75.8(123) of the other etiologies(p=.002), due to the loss of 3.5(3.6) vs1.9(2.9)days of work(p< .001).Meals costs were 2-fold-higher in RAGE: 48.5(55) vs 24.3(46)euros[p< .001]. Travel costs were 2.6-fold-higher in RAGE:32(92)vs12.5(21.1) euros [p=.005]. There were no differences between groups regarding hiring of caregivers or purchase of material costs. Patients with RAGE were admitted to hospital more frequently (47.8%vs14%)[p< .001].

Conclusions: Rotavirus generates a significant indirect economic burden that should be considered in the economic evaluation of the eventual inclusion of rotavirus vaccine in the spanish immunization schedule.

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INHALED NITRIC OXIDE AFTER OXIDATIVE STRESS IN NEWBORN RATS. EFFECTS ON VEGF EXPRESSION AND ALVEOLARIZATION

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Background and aims: Exposure of newborn rats to hyperoxia decreases VEGF expression and impairs alveolarization. Much evidence indicates that NO plays a role in VEGF signaling and recent studies have shown that NO induces VEGF synthesis. The purpose of this study was to determine whether inhaled NO improves VEGF expression in the lung tissue and alveolarization after neonatal exposure to oxidative stress.

Methods: Newborn rats were randomized to breathe room air (A), 2 hours A + NO (20 ppm) , 2 hours hypoxia + 2 hours hyperoxia (HH), HH + NO, 2 hours hypoxia + air (HA) or HA + NO. We evaluated pulmonary VEGF in rats at 14 days of life by inmunohistochemistry using 1:100 dilution of rabbit anti-human VEGF (sc-152, Santa Cruz). We used a semiquantitative assessment of VEGF

inmunostained, were assigned a relative value from 0 (minimal staining) to 4 (most intense inmunostaining). Quantitative morphometric assessment was done on coded slides with 400x magnification and a eye piece with a sample square grid pattern (model CPLW 1018, Zeiss Optical, Hannover Md) and was done following the mathematical model of Weibel. Differences between the groups were determined by one way ANOVA ($p < 0.01$).

Results: The VEGF was significantly decreased in the lungs of rats recovered in hyperoxia, it was correlated with a lower degree of alveolarization. Inhaled NO treatment after hyperoxia neither increase lung VEGF expression nor alveolarization.

Conclusion: The inhaled NO did not improve the changes observed in rat lungs after hyperoxia exposure.

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MATRIX METALLOPROTEINASE 2, TIMP-1 AND TIMP-2 CONCENTRATIONS IN TRACHEAL ASPIRATE FLUID AND PLASMA OF PRETERM INFANTS DEVELOPING BRONCHOPULMONARY DYSPLASIA

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Background and aims: Bronchopulmonary Dysplasia (BPD) is one of the most important complications of prematurity. MMPs are a group of proteolytic enzymes involved in lung development. Imbalance between MMPs and their inhibitors has been implicated in increased inflammation and impaired alveolar differentiation and maturation. MMP-2 is known to play a crucial role in this process. The aim of this study was to investigate the potential association between levels of MMP-2, TIMP-1, TIMP-2 and the development of BPD in preterm infants.

Methods: 27 preterm neonates with a gestational age of ≤32 weeks and birth weight ≤1500g were included in this prospective study. 14 neonates developed BPD according to NIH criteria. TAF aspirates were collected on day 1-2 and 5 after birth. Plasma concentrations were measured in umbilical cord blood samples. MMP-2, TIMP-1 and TIMP-2 concentrations were assayed by ELISA.

Results: In the group of neonates with BPD or death initial levels of examined proteins were significantly higher compared to non-BPD preterms. Additionally, in preterm infants TAF levels of MMP-2, TIMP-1 and TIMP-2 undergo dynamic changes in the first 5 days of live. Significantly lower levels of MMP-2 and TIMP-2 on day 5 compared to day 1-2 were associated with development of BPD or death. Umbilical cord blood plasma concentrations of MMP-2, TIMP-1 and TIMP-2 did not differ between groups.

Conclusions: Determination of TAF concentrations of MMP-2 and TIMP-2 and observation of their changes in the first days of life in preterm neonates is of prognostic value for development of BPD.

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RECOMBINANT HUMAN KGF/PALIFERMIN® AS AN ALTERNATIVE TO GLUCOCORTICOIDS-EFFECTS ON PNEUMOCYTE PROLIFERATION AND GENE EXPRESSION IN NEONATAL RATS

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Background: Surfactant decreases surface tension of pulmonary air:liquid interfaces. It mainly comprizes characteristic phosphatidylcholine (PC) species and proteins SP-A to -D. Betamethasone used to accelerate „lung maturation“ is catabolic, while keratinocyte growth factor (KGF), expressed by fibroblasts, is non-catabolic, acts specifically on type-II-pneumocytes and correlates inversely with bronchopulmonary dysplasia incidence.

Aims: To explore the potential of recombinant human KGF (rhKGF, Palifermin®) on neonatal lung development and surfactant metabolism. To contrast rhKGF with betamethasone effects *in vivo*.

Methods: Postnatal rats (d1,d5,d19) were injected with rhKGF (2x5mg/kg), betamethasone (2x1mg/kg) or rhKGF+betamethasone over 48h. Pneumocyte