Aim: Realizing the bullying in a school environment in one central Belgrade borough - Savski venac, trying to prevent it.

Methods: Realizing and analyzing the results of the survey that contained questions regarding bullying in a school environment. The survey covered 882 high school students in Savski venac (borough) - Belgrade.

Results and conclusions: The research showed that bullying happened among 39,6% of the young population. The bullying, no matter what kind of it, never happened to 60,4-95,1% of children. The most common form of bullying was in a form of quarrel try with friends 36,6%, it happened once 19,8%, 2-3 times 12,6%, and 4 or more times happened in 6% of situations. The most frequent bullying as a physical hurt happened in 95,1% of situations, of which once in 2% and in 0,9% two or more times. The frequent bullying was also in a form of mockery 36,8%, of which once in 17%, 2-3 times 10,8%, and over 4 times in 7,4%

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NASAL CONTINUOUS AIRWAY PRESSURE VERSUS HELMET CONTINUOUS AIRWAY PRESSURE IN INFANTS WITH BRONCHIOLITIS: A CROSSOVER STUDY

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Objective: To compare the efficacy and safety of CPAP delivered by helmet interface (HI) and CPAP delivered by Infant-Flow® system (IF) with nasal prongs.

Methods: Prospective crossover study including infants < 3 months of age with refractory bronchiolitis. Patients with a modified Wood's clinical asthma score (M-WCAS) ≥ 4 or venous $\text{PCO}_2 \geq 60$ mmHg despite nebulized adrenalin were eligible. Infants were randomly allocated to receive CPAP by HI or IF during one hour, and then switched to the other CPAP system. Measurements were taken at baseline and after 60 and 120 minutes. After this period, CPAP was maintained with the system used in the second phase of the crossover period.

Results: Fifteen patients fulfilled inclusion criteria: 8 males, age 50.8 ± 15.7 (mean $\pm$ SD) days, weight 4.4 ± 0.7 kg. Nine infants received HI-CPAP in the first crossover phase and 6 received IF-CPAP initially. Baseline mean values were: M-WCAS 4.6 ± 1 points; venous PCO_2 57 ± 10.4 mmHg, heart rate (HR) 173 ± 15.2 beats/minute; respiratory rate (RR) 56.2 ± 11.2 breaths/minute. After 120 minutes of CPAP, clinical score, HR and RR fell 1.9 points, 15 beats/minute, and 8 breaths/minute, respectively ($p < 0.05$). At 60 minutes, improvement in clinical score (3 ± 0.9 vs. 2.8 ± 1), HR (166 ± 21.5 vs. 160.2 ± 13.3) and RR (47.3 ± 18.5 vs. 47.3 ± 11.1) was similar in both groups ($p > 0.05$). No adverse effects were recorded during the crossover period; later, two patients required intubation: one belonged to IF group and the other one to HI group.

Conclusions: HI-CPAP was as effective as IF-CPAP in infants with acute bronchiolitis. Safety of both systems seems to be similar.

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AEROSOLIZED PFC IMPROVES PULMONARY FUNCTION AND GAS EXCHANGE IN A PRETERM LAMB MODEL

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Background: The aerosolization of PFC has emerged as a feasible alternative to the instillation for the experimental treatment of Respiratory Distress Syndrome.

Aim: To determine the effects of aerosolized perfluorocarbon (PFC) on pulmonary gas exchange and lung function in preterm lambs.

Methods: 12 preterm lambs (80-90%GE) were used. Lambs were randomly assigned to receive aerosolized PFC (10 ml/kg/h for 2h), delivered via an inhalation catheter, coupled to a jet nebuliser, and placed at the distal end of the endotracheal tube connected to a ventilator (PFC-aerosol) or not (CONTROL), both groups were maintained during 6h on IMV. Cardiovascular parameters, arterial partial pressure of CO_2 ($P_{a\text{CO}_2}$), pH, oxygenation

index (IO), arterial-alveolar oxygen ratio (a/APO₂), alveolar-arterial oxygen gradient (A-a)DO₂ and pulmonary function (compliance C_{dyn} and tidal volumen V_T) were measured each 30 min during the experiment. Mean±SD, ANOVA, p< 0.05.

Results: After 90min of treatment, animals in PFC-aerosol group, significantly improved gas exchange in comparison to Control group, being the improvement persistent until the end of the experiment: P_{aCO₂} (37±6 vs. 93±12 mmHg), pH (7.41±0.11 vs. 7.15±0.09), IO (9±3 vs. 77±44), a/APO₂ (0.29±0.11 vs. 0.04±0.02), (A-a)DO₂ (294±133 vs. 572±20). Moreover, the pulmonary function significantly improved after 60 min of treatment in PFC-aerosol group compared to Control group, the improvement was sustained during the experimental period: C_{dyn} (0.53±0.05 vs. 0.27±0.04 ml/cmH₂O/kg), V_T (12.5±2.4 vs. 5.2±1.8 ml/kg). During all the experimental period there were not changes on cardiovascular parameters.

Conclusion: Our results show that administration of aerosolized PFC improves pulmonary function and gas exchange. FIS07/0733-GV2007111046

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EXPRESSION OF AENAC IN AIRWAYS CORRELATES WITH ENDOGENOUS CORTISOL IN NEWBORN TERM INFANTS

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Objective: Reabsorption of lung fluid is critical for the adaptation of the newborn infant. Defective reabsorption may result in transient tachypnea of the newborn or contribute to respiratory distress syndrome. Perinatally, epithelial sodium channel (ENaC) is crucial for lung fluid reabsorption. ENaC is composed of 3 homologous subunits, the α-subunit being indispensable to ENaC function. Exogenous glucocorticoids (GC) regulate ENaC gene expression, but little is known whether an association exists between endogenous cortisol and ENaC.

Subjects and methods: 69 term infants delivered vaginally (n=22) or by elective cesarean section (CS) (n=47) were included. We collected cord blood and saliva for cortisol analyzes with ELISA. Airway epithelium ENaC mRNA was quantified with real-time RT-PCR and normalized to cytokeratin 18 (CK18). Saliva and airway epithelial sampling was

performed < 3h, 24 ± 5 and 48 ± 8 h postnatally. In a subset of infants delivered by elective CS (n = 26) first airway samples were obtained < 30 min postnatally.

Results: αENaC mRNA < 30 min postnatally correlated with cord cortisol; r = 0.64, p = 0.001 (n=22). Adjusted for GA the correlation remained significant ; r = 0.59, p = 0.005. At < 3h postnatally αENaC correlated with salivary cortisol; r = 0.52, p = 0.004 (n=29).

Conclusion: Cortisol seems to be an important physiologic regulator of ENaC expression at birth. Our finding suggests that lung fluid transport may respond to GC even in the term infant. This underlines the potentials of regulation of perinatal lung fluid reabsorption by GC.

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THE EFFECT OF ENTERAL SUPPLEMENTATION OF NEUTRAL AND ACIDIC OLIGOSACCHARIDES ON INTESTINAL MICROBIOTA, PH, SCFAS AND SIGA IN PRETERM INFANTS

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Introduction: We aimed to determine the effects of enteral supplementation of a prebiotic mixture consisting of neutral and acidic oligosaccharides (GOS/LC-FOS/AOS) on faecal microbiota, SCFAs, pH and slgA in preterm infants. Furthermore, we determined perinatal factors associated with faecal microbiota.

Methods: In a RCT, preterm infants with a gestational age < 32weeks and/or birth weight < 1500g received enteral supplementation of GOS/LC-FOS/AOS or placebo (maltodextrin) between days 3-30 of life. Faecal microbiota, as measured with FISH, and SCFAs, pH and slgA was assessed at 4 time points: before start of the study, at day 7, 14 and 30 of life. Data were analysed by generalised estimating equations.

Results: In total, 55 preterm infants in the GOS/LC-FOS/AOS and 58 preterm in the placebo group were included. Baseline patient and nutritional characteristics were not different between both groups. Enteral supplementation of GOS/LC-FOS/AOS