PO-1032 EFFICACY OF THE INHALATION THERAPY WITH COLISTIMETHATE SODIUM IN PS. AERUGINOSA INFECTION IN INFANTS WITH CYSTIC FIBROSIS

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Background Ps.aeruginosa pulmonary infection in children with cystic fibrosis (CF) is a major problem with negative impact on the evolution of disease and quality of life in these patients.

Aim Elucidate the efficacy of the inhalation therapy with Colistin in children with CF and Ps.aeruginosa pulmonary infection.

Methods The study included 15 children with CF and Ps. aeruginosa pulmonary infection aged 1.5 to 4-year, who underwent bacteriological examination of bronchial secretion before and after treatment with titration diagnosis of germ.

Results In the step of including in inhalation therapy with Colistimethate sodium 13 children (86.6%) had BMI 14.48 ± 0.15 , which during 1–1.5 years increased significantly to 16.32 ± 0.2 ($p < 0.036$). All children included in the study suffered from pulmonary infection with Ps. aeruginosa diagnostic titer from 10^8 to 10^3 micr/ml. After the treatment with Colistin the infection was eradicated in 6 children (40%), in 8 children (53.3%) the concentration decreased up to 10^5 – 10^3 micr/ml and in only one case the titer of Ps.aeruginosa bronchial secretions remained unchanged (10^4 micr/ml).

Conclusion Antibacterial inhalator therapy with Colistimethate sodium in infants with CF, affected by Ps.aeruginosa pulmonary infection, produces beneficial effects on the nutritional status of children, offers high chance (40%) eradication of this infection and improves the prognosis of the disease.

PO-1033 MIXED VIRAL-BACTERIAL AND VIRAL-VIRAL ALVEOLAR PAEDIATRIC COMMUNITY-ACQUIRED PNEUMONIA (PCAP) BEFORE THE START OF BROAD-BASED PNEUMOCOCCAL VACCINATION

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Introduction Early etiologic diagnosis can help for effective treatment of PCAP as well as for elaboration of guidelines of empirical antibioticotherapy of PCAP.

Objectives The aim of the study was to detect the etiological viral and bacterial agents in children with X-ray confirmed alveolar PCAP.

Material and methods From May 2011 until December 2012 we prospectively enrolled 118 children with a diagnosis of X-ray confirmed alveolar PCAP admitted to hospital. Sputum cultures were taken for microbiology. Respiratory secretion samples also were analysed by multiplex real time PCR (Seeplex RT-PCR Magicplex; Seegene, Korea) for 9 viruses and 6 bacteria. A real-time PCR assay was used to identify the rhinovirus in the enterovirus / rhinovirus positive samples. Children were divided into two groups: 3 months – 4 years (1st) and 5–17 years (2nd).

Results 104 children (88.1%) were positive for at least one virus: the most frequently detected was adenovirus (33.9%). Rhinoviruses were significantly more frequently detected in 1st group ($p < 0.05$). Viral co-infections with 2–7 viruses were found in 47 children (39.8%). *S.pneumoniae* and *H.influenzae* were detected using PCR more often than in microbiological cultures in 1st group. Correlation was found between adenovirus

and *S.pneumoniae* in 1st group ($p = 0.012$) and between HMPV, rhinoviruses and *S.pneumoniae* in 2nd group ($p = 0.01$ and $p = 0.021$ respectively).

Conclusions The results of the study confirmed high incidence of viral-bacterial as well as viral-viral infection in alveolar PCAP. It was found virus specific co-infection in pneumococcal PCAP in preschool and school age children.

PO-1034 THE USE OF CT IN THE MANAGEMENT OF PAEDIATRIC PLEURAL EFFUSION

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Background Current UK (British Thoracic Society, 2005) guidance recommends that CT is not routinely used in the initial investigation of pleural effusion in children. Ultrasound is recommended to confirm the presence of pleural fluid and to guide drain insertion. However, optimal imaging is also essential in delineating 'simple' parapneumonic pleural effusion from necrotising pneumonia with complications.

Method We review the evidence comparing ultrasound to CT imaging for paediatric pleural effusion and present four cases where early CT imaging could have altered clinical outcomes.

Results Three cases presented with complete unilateral 'white-out' on chest X-ray, limiting the information available about the underlying lung parenchyma from that modality. These patients had a total of six ultrasound scans, only one of which identified underlying parenchymal complications. All three patients had evidence of necrotic pneumonia; one developed a pneumatocele post percutaneous drainage; two required surgical management and had evidence of bronchopulmonary fistula formation, one in conjunction with diaphragmatic necrosis and perforation. The fourth patient had a discrepancy between chest X-ray and ultrasound findings and also went on to develop pneumatocele following percutaneous drainage.

Discussion Previously published evidence and our case series show that ultrasound is less successful than CT at identifying lung necrosis in the setting of paediatric pleural effusion. The early use of CT may help to reduce length of hospital stay by avoiding inappropriate percutaneous drainage and subsequent complications or by prompting earlier surgical intervention.

PO-1035 A LARGE PLEURAL EFFUSION IN A WELL CHILD - THINK ABOUT THE PANCREAS!

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Although pleural effusion is a recognised (if unusual) complication of pancreatitis in adults, it is very rare in children.

We present the case of a nine year-old male patient, previously well, who presented after a holiday in Thailand with chronic back pain. Initial investigations were clear but he was admitted two weeks later with a massive right sided pleural effusion requiring repeated draining. Investigation showed no evidence of infection or malignancy, but he had a serum amylase level of 2096 (normal <106) and a pleural level of 35,240. His blood film showed an eosinophilia up to $2.5 \times 10^9/L$ (normal <0.4). Pancreatic ultrasonography and a subsequent MRCP and ERCP revealed material in an ectatic pancreatic duct with a

proximal stricture. We believe that he had pancreatic duct obstruction due to *Ascaris Lumbricoides* although this could not be confirmed. He clinically improved post endoscopic decompression of the pancreatic duct through a transpapillary stent.

Pancreatic and biliary obstruction from helminths is well recognised in adults, as are pleural effusions caused by pancreatitis although the combination does not appear to have been previously reported in children. The pancreatic duct is surprisingly close to the pleural cavity, and the fistula develops as a result of tracking. Measurement of pleural amylase should be considered in cases of pleural effusion without evidence of infective or malignant cause.

PO-1036 ESTIMATING THE RELATIVE RISK AND ATTRIBUTABLE RISK IN THE INITIATION AND EVALUATION OF CHRONIC RESPIRATORY DISEASES

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Aim Determination and estimation of risk degree of the factors in the chronic respiratory disease outbreak.

Methods To study the risk factors it was applied the discriminate analysis, which consists in determining of aggression of various risk factors by rendering of share. Shares were determined based on the relative and attributable risk for each risk factor separately.

Results The study presented a significant relationship between the children with chronic respiratory diseases and the low air temperatures in rooms (RR - 3,96, $p < 0.001$), increased relative humidity (RR - 2,41, $p < 0.001$) the presence of mould (RR - 2,27, $p < 0.001$), increased CO₂ concentrations (RR - 1,76, $p < 0.001$). The results obtained in calculating the degree of risk attributable to reveal the likelihood of developing chronic respiratory pathology can be expected in children exposed to the following factors: low temperature air (RA-79.9%, $p < 0.001$), increased relative humidity (RA - 0.5%, $p < 0.001$), presence of mould (RA - 67.9%, $p < 0.001$), the concentration of CO₂ (RA - 29.6%, $p < 0.001$), socio-economic level of the family (RA - 23.9%, $p < 0.001$) and passive smoking (8.6%, $p < 0.001$).

Conclusion According to the analysis of relations between pupils' health state indices with chronic respiratory diseases and the factors of educational and residential medium based on the calculation of relative risk, attributable risk the main predictors of the environment are: low air temperature in rooms, high humidity, damp, mould, major CO₂ concentration, lack of ventilation in houses and classrooms. The action of multitude risk factors in combination enhances the development and the onset of these diseases.

PO-1037 WITHDRAWN

PO-1038 CORRELATIONS BETWEEN FEEDING HABITS AND ASTHMA IN CHILDREN ADMITTED TO A PAEDIATRIC DEPARTMENT

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Background Classically, breastfeeding is considered to have a protective effect on allergy in children. On the other hand, the early introduction of cow milk may be associated to development of allergic diseases in childhood.

Aim To assess the relationship between feeding habits and development of allergic diseases (mainly asthma) in children admitted to a paediatric department.

Methods We performed a retrospective analysis of 621 children aged 3–12 years admitted in our department during 2013. The study group comprised 356 patients diagnosed with asthma (238 aged 3 to 6). We conducted a stratified analysis based on age and correlated to infant feeding, using the chi squared test.

Results In the study group, 56 children aged under 6 were breastfeed more than 6 months vs. 60 in the control group: $p = 0.005$, RR = 0.77(0.63–0.95). 32 asthmatic children aged over 6 were breastfeed at list 6 months vs. 32 in the non-asthma group $p = 0.07$, RR = 0.82(0.62–1.09). Regarding the introduction of cow milk before 12 months, the stratified results by age were: $p = 0.009$ and RR = 1.21(1.03–1.43) and, respectively, $p = 0.02$ and RR = 1.28 (1.01–1.62). The use of a hypoallergenic formula was not statistically significant between groups: $p = 0.12$ and respectively 0.27.

Conclusion Breastfeeding had a protective effect during the early childhood, whilst the introduction of cow milk correlated with asthma in both age groups. Hypoallergenic formulas seemed to have no protective effect in our study.

PO-1039 THE IMPACT OF ASTHMA ON CHILD AND PARENTAL QUALITY OF LIFE IN LITHUANIA

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Background and aims The aim of this study was to evaluate the quality of life (QoL) in children with asthma and their parents and its relationship with age, gender, asthma severity and concomitant diseases.

Methods The study took place in Family Medicine centre in Kaunas city (Lithuania) in 2005. Asthma related QoL in 186 children (122 boys and 64 girls) and their parents was evaluated by using Paediatric Asthma Quality of Life Questionnaires for children and parents. The average age of children was 11.14 (± 2.8) years and varied from 7 to 18 years.

Results In our sample asthma was complemented by allergic rhinitis in 82 cases, by atopic dermatitis – in 27 cases, by both – in 21 cases.

Children with moderate and severe asthma had significantly higher odds of having worse QoL (OR=1.83, 95% CI 1.22–2.75), as compared to children with mild asthma. Total score, symptoms and emotion domains were scored significantly lower by children with moderate and severe, than mild asthma.

Limitation of activities was related to waking up at night, disturbed sleep, number of activities bothered by asthma, asthma severity, attendance of sports classes at school and the child's opinion on "how much he/she is bothered by asthma". Asthma bothered boys on the run and playing ball more often than girls.

Conclusions Children suffering from moderate or severe asthma evaluated the total QL as well as symptoms and emotions worse than kids suffering from mild asthma. Asthma is a limiting factor in children's level of physical activity.