

Poster Session Group I – Blue TPS 3

Pediatric asthma and rhinitis

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Swimming and risk of asthma and allergies in Portuguese school aged children

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Background: Suggestions of an increased asthma risk associated with swimming pool attendance have been made but evidence is conflicting. We aimed to assess the impact of swimming pool attendance on lung function, airway inflammation, and risk of asthma and allergic diseases in Portuguese school aged children.

Method: A cross-sectional survey in 348 children, aged 7–12 years, from 10 primary schools in Porto, was carried out from January to June 2014. Parents completed a questionnaire on demographics, environmental exposure, respiratory health and participants had lung function assessed by spirometry, airway inflammation by exhaled nitric oxide and atopy by skin prick tests. Final analysis included 269 children, aged 8.8 ± 0.9 years, 144 girls. The association between current swimming and health outcomes was evaluated using multivariate logistic regression models or chi-square test were appropriate.

Results: No differences in prevalence of atopy (34% vs. 40%; $P = 0.471$), asthma (15% vs. 7%; $P = 0.062$); allergic rhinitis (15% vs. 19%; $P = 0.509$), and eczema/dermatitis (18% vs. 11%; $P = 0.542$) were observed between current swimmers ($n = 53$; 3.1 ± 2.8 h/week/year of swimming pool cumulative exposure) and others ($n = 216$). Lung function parameters (FVC, FEV1, FEF2575) were similar but significant differences in exhaled nitric oxide levels were observed (mean 95%CI: 24.9 ppb (15.7 to 34.2) vs. 14.7 ppb (12.0 to 17.5); $P = 0.004$) after adjustment for atopy, height, weight and age, between current swimmers and others. Increased levels of exhaled nitric oxide remained significant even after excluding subjects with asthma from the analysis (mean 95%CI: 18.0 ppb

(12.5 to 23.6) vs. 13.7 ppb (12.0 to 15.5); $P = 0.018$).

Conclusion: The findings of our study are limited by its cross sectional nature and do not allow us to establish causal relationships. Nevertheless, swimming pool attendance was associated with non-pathological increased levels of airway inflammation assessed by exhaled nitric oxide independently of the presence of asthma.

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The patient registry of children with severe persistent uncontrolled asthma as a tool for long-term dynamic monitoring

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Background: The gold standard for evidence-based medicine is a randomized clinical trial, but it has a number of shortcomings and its results do not reflect the real-world clinical practice fully. When conducting of RCT is difficult for various reasons, to determine the effectiveness and safety of any medical intervention in real-life settings in terms of long-term observations, the information database of clinical cases – patient registries are used.

In terms of the heterogeneity of clinical symptoms in different groups of patients with bronchial asthma (BA) the usage of long-term clinical monitoring is optimal for assessment of the efficacy and safety of treatment of severe persistent uncontrolled asthma in the real practice.

Aim: The creation of the patient registry of children with severe persistent uncontrolled asthma.

Methods: Experts of the centre were established software product – management shell database of clinical cases – patient registry of children with severe persistent

uncontrolled BA, one of the drugs for basic treatment was Omalizumab.

Results: The database includes the clinical information about 65 children (63% boys) from 6 to 17 years 11 months (mean age 13.8 years) with severe persistent uncontrolled BA, whom have received / are receiving (32 patients, 71.8% boys) bio-engineered treatment of Omalizumab (duration of treatment from 1 till 72 month). During the analysed period of treatment confirmed the safety of this medication: have conducted more than 5390 injections, local adverse events have occurred at a frequency of 1/100–1/200 and manifested as a light redness and induration, which had cropped off 1–1.5 days after administration; local allergic reactions such as rashes have occurred in two patients and have treated with second generation antihistamines and then will not be disturbed.

Conclusion: The patient registry is the important tool for solving epidemiological gaps in order to achieve optimal endpoints for monitoring and analysis of the efficacy and safety of innovative treatments and approaches that have been used at long.

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Seropositivity to chlamydia pneumoniae in uncontrolled asthmatic children

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Background: *Chlamydia pneumoniae* (CP) infection is a frequent cause of acute respiratory infections, particularly in older children and young adults. CP infection may promote the exacerbation of asthmatic symptoms but also may evolve into chronic, asymptomatic phase, which some researchers link with asthma pathogenesis [1, 2]. CP potential role in asthma has been divided into three different aspects: asthma initiation, asthma prolongation, and asthma exacerbation [3]. Data regarding the CP role in children's asthma control are limited.

Method: Specific IgA, IgM, and IgG antibodies to *Chlamydia pneumoniae* were