[PA3136] Latent class identification in wheezing preschool children

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Background and aim

Since the forced oscillation technique (FOT) has not been used in previous studies on wheezing phenotyping in preschool children, we applied FOT in a large series of outpatients visited at IBIM.

Methods

We analyzed 256 consecutively enrolled ≤5 years children with doctor diagnosis of wheezing. Latent Class Analysis (LCA) was performed considering the following personal characteristics: type, cause, recurrence in last 12 months, respiratory resistance (Avr_R(8)), atopy, history of eczema, rhinitis and upper airways infections. High resistance is defined as positive residual of regression on sex, age, height and weight. Risk factors were considered meaningful when they yielded a p-value <0.10 in ANOVA and Chi-square tests. Analyses were performed through R version 3.2.0.

Results

Two latent classes were identified. In the first class (71%), children had mainly persistent (59%) and recurrent (50%) wheezing, with high resistance (56%; mean value 9.73±2.75 hPa/(l/s), mean residual 0.35±2.67 hPa/(l/s)) and high prevalence rate of upper airways infections (53%). In the second class (29%), wheezing was mainly late-onset (54%) and episodic (67%), with low resistance (65%; mean value 8.91±2.64 hPa/(l/s), mean residual -0.34±2.48 hPa/(l/s)) and high prevalence rates of rhinitis (76%) and atopy (79%). Membership in the first class was linked to be non-firstborn (p=0.075) and to have history of bronchiolitis (p<0.01). Membership in the second class was associated with older mean age (p<0.01), parental history of allergic diseases (p=0.06) and history of mold exposure (p=0.024).

Conclusions

Considering respiratory resistance can improve wheezing phenotype characterization in preschool children.

Session: Poster Discussion: Highlights in primary ciliary dyskinesia and asthma in childhood
Date/Time: Monday, September 5, 2016 - 2:45 pm
Room: Room ICC Capital Suite 10