**P1507**

**Long-term evolution of virus-induced and multi-trigger wheeze in children of the EGEA study**

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**Background:**
Recent guidelines have proposed different phenotypes according to triggers (episodic/virus (EVW) and multiple trigger wheeze (MTW)) in preschool children. Studies aimed at characterizing asthma evolution according to these phenotypes are seldom.

**Aims:**
To investigate lung function and asthma evolution up to adulthood between MTW and EVW in childhood.

**Methods:**
588 children, aged 10.9±3.0 years included in EGEA study were classified as non wheezer (n=265), EVW (wheeze only with viral infections and asymptomatic between episodes, n=131) and MTW (wheeze with viral infections and between episodes with triggers such as dust, tobacco smoke, exercise, and cold air, n=192). 139 (72.4%) MTW and 85 (64.9%) EVW participated to the 12-year follow-up.

**Results:**
At baseline MTW were older (11.5 vs 10.1 years), more atopic (at least 1 positive skin test, 89.7 vs 57.0%), had more often active asthma (symptoms or treatment in the past year, 96.2 vs 58.3%) and ICS use in the past year (54.7 vs 26.4%) compared to EVW. FEV₁ and FVC (% pred Stanojevic) were similar in both groups but MTW had lower FEV₁/FVC ratio (85.4±7.1vs 88.3±7.0, p=0.001) and FEF₂₅-₇₅ (93.6 ±25.5 vs 103.2±26.5%, p=0.002) compared to EVW. At follow-up MTW had more often active asthma (71.9 vs 38.5%, p=0.003), and ICS use (39.1 vs 18.1%) compared to EVW. FEV₁/FVC and FEF₂₅-₇₅ remained lower in MTW than in EVW (81.2±7.6 vs 84.8±7.8%, p=0.002 and 94.6±25.5 vs 110.3±26.8%, p<0.0001 respectively).

**Conclusions:**
Our results suggest that the episodic vs multi-trigger wheeze classification applied in school-age children identified groups of wheezers with different baseline characteristics and long-term evolution.