**Title:** Small airways obstruction is associated with long-term persistence of asthma (EGEA study)

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**Body:** Whether small-airway obstruction contributes to the long-term evolution of asthma remains unknown. The aim was to assess the association between FEF25-75% and the persistence of current asthma over 20 yrs and the subsequent risk for uncontrolled asthma. 337 subjects, 142 children and 225 adults, with current asthma (asthma attacks or treatment in the past 12 months) recruited in the Epidemiological study on the Genetics and Environment of Asthma (EGEA1) and followed-up to the 12 yr and 20 yr surveys (EGEA2 and 3) were analyzed. Persistent current asthma was defined...
by current asthma reported at each survey. Lung function was measured at EGEA1 and 2. A FEF_{25-75} reduced by 10% predicted at EGEA1 was significantly associated with a higher risk for long-term asthma persistence in children and adults. In subjects with FEV1>80%pred, the association remained significant in children but not in adults (OR [95%CI]=1.20[1.01-1.43] and 1.03[0.88-1.20]).

A FEF_{25-75} reduced by 10% at EGEA1 was significantly associated with current asthma a decade apart, and the association was more evidenced in those with asthma exacerbation as compared to those without (OR [95%CI]: 1.38 [1.12-1.69] and 1.17 [1.04-1.32]).

Our analysis is the first to suggest that small-airway obstruction is associated with the long-term evolution of childhood asthma.

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