Evolution and risk factors for active asthma in adults participating in EGEA and ECRHS-France cohorts

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Body: Background

Asthma activity varies over time. Long-term evolution and risk factors for active asthma in adults are not well known.

Aims

To assess risk factors for active asthma in adults with asthma included in two 20-year follow-up French cohorts.

Methods

624 adults with ever asthma when recruited in the Epidemiological study on the Genetics and Environment of Asthma (EGEA1) (n=416) or European Respiratory Health Survey (ECRHSI)--France (n=208) (mean age 36.2 years,
50.8% women) were included if at least one follow-up was available at 10 (EGEA2, ECRHSII) and/or 20 years (EGEA3, ECRSHIII). Active asthma was defined by report of asthma attacks or treatment in the past year. Mixed logistic regression models taking into account a study effect and repeated measurements were applied to estimate the effects of sex, age at asthma onset, atopy, BMI, FEV1, smoking on the risk for active asthma.

**Results**

Active asthma was reported in 77.9%, 67.1% and 69.9% of subjects at baseline, at 10 and 20-yr follow-up respectively. Risk of active asthma decreased with age. Older age at asthma onset (OR [95 CI] 1.18 [1.00-1.40]) for 10 years increase) and lower FEV1 level (1.41 [1.24-1.62] for 10%pred decrease) were associated with a higher risk of active asthma. Smoking, atopy and BMI were not significantly associated with asthma activity. Women tended to have a higher risk for active asthma especially between 40 and 50 years old, but the interaction term between gender and age was not significant.

**Conclusion**

Our study showed that low FEV1 and older age at asthma onset were associated with an increased risk for active asthma and did not evidence a role of smoking, BMI and atopy in active asthma.