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Persistence of asthma from 8-28 years – a population-based cohort study

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Background: Asthma is often regarded as a chronic disease even though remission of childhood asthma is common and the knowledge on persistence of asthma and its predictors are limited.

Aim: To investigate the persistence of asthma from 8 to 28 years and its associated factors.

Methods: Within the OLIN (Obstructive Lung Disease in Northern Sweden) studies, a pediatric cohort was recruited in 1996 at age 8y and followed by annual questionnaires about asthma, allergic diseases and risk factors until 19y. Skin prick tests were performed at age 8, 12 and 19y. Among the 3430 (97% of invited) participants, 248 with asthma were identified by age 8y, 234 were possible to invite to a follow-up survey at 28y whereof 170 (73%) participated. Factors associated with current asthma at age 28y in bivariate analyses were analyzed in adjusted logistic regression models (OR, 95%CI).

Results: Of the 170 individuals, n=105 (61.8%) had current asthma at 28y of age, n=49/76 (64.5%) of the women and n=56/94 (59.6%) of the men, p=0.513. Severe respiratory infections <8y (OR 2.9, 95%CI 1.2-7 .0) and allergic sensitization at 8y (OR 2.6, 95%CI 1.1-6.6) were associated with current asthma at 28y after adjustment for sex, family history of asthma, breastfeeding <3 months and eczema. Further, bronchial hyperreactivity at age 17y was associated with current asthma at 28y after adjustment for sex, family history of asthma and allergic sensitization at age 8, 12 or 19y (OR 9.0, 95%CI 1.7-47.0).

Conclusion: In this long-term follow-up of children with asthma onset by 8y, 2/3 still had current asthma at age 28 years. Predictors for persistent asthma were respiratory infections, allergic sensitization and bronchial hyperreactivity.