

*Asthma, COPD and overlap syndrome: a longitudinal study in young European adults*

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**Abstract**

We compared risk factors and clinical characteristics, 9-year lung function change and hospitalisation risk across subjects with the asthma–chronic obstructive pulmonary disease (COPD) overlap syndrome (ACOS), asthma or COPD alone, or none of these diseases.

Participants in the European Community Respiratory Health Survey in 1991–1993 (aged 20–44 years) and 1999–2001 were included. Chronic airflow obstruction was defined as pre-bronchodilator forced expiratory volume in 1 s (FEV<sub>1</sub>)/forced vital capacity < lower limit of normal on both occasions. Based on their history of respiratory symptoms, spirometry and risk factors, subjects were classified as having asthma alone (n=941), COPD alone (n=166), ACOS (n=218) and none of these (n=5659).

Subjects with ACOS shared risk factors and clinical characteristics with subjects with asthma alone, but they had an earlier age of asthma onset. FEV<sub>1</sub> change in the ACOS group (–25.9 mL·year<sup>–1</sup>) was similar to that in the asthma group (–25.3 mL·year<sup>–1</sup>), and lower (p<0.001) than in the COPD group (–37.3 mL·year<sup>–1</sup>). ACOS was associated with the highest hospitalisation rate.

Among young adults aged 20–44 years, ACOS seems to represent a form of severe asthma, characterised by more frequent hospitalisations, and to be the result of early-onset asthma that has progressed to fixed airflow obstruction.