Tsiavia T, Henny J, Goldberg M, Zins M, Roche N, Orsi L, Nadif R

Blood inflammatory phenotypes of asthma in the Constances cohort

Annual Congress of the European Respiratory Society (ERS), September 5-8, 2021, Virtual congress

ABSTRACT

Marked differences in asthma characteristics were found according to four inflammatory phenotypes defined by blood eosinophil and neutrophil counts in the case-control EGEA study. Our aim was to clinically characterize for the first time these inflammatory phenotypes in Constances, a French population-based cohort. Cross-sectional analyses were performed on 160,272 adults (18-69 years). Current asthma was defined among ever-asthmatics by asthma attacks, symptoms or treatments in the last 12 months. Inflammatory phenotypes were defined according to eosinophil and neutrophil counts with cutoffs of 250/mm3 and 5000/mm3, respectively. Associations between phenotypes and asthma characteristics were studied using logistic models adjusted for age, sex, smoking status, BMI, education level, French deprivation index and treatment. Stratification according to age (<40/≥40 years) was performed. The paucigranulocytic (reference group), neutrophilic, eosinophilic and mixed phenotypes accounted for 57%, 6%, 33% and 4% of the 15,019 current asthmatics, respectively. The neutrophilic phenotype was associated with being awaken by an attack of coughing, chronic bronchitis, and dyspnoea (adjusted(a)OR ranging from 1.21 to 1.42). The eosinophilic and mixed phenotypes were associated with asthma attacks (aOR=1.31[1.20-1.42], 1.25[1.02-1.53]) and asthma symptom score (p trend≤10-3). The eosinophilic phenotype was also associated with being awaken with chest tightness (aOR=1.30[1.20-1.40]). Imputing data or changing cut-off points did not change the results. Heterogeneity according to age was observed. Marked clinical differences were found according to blood inflammatory phenotypes in a population-based study.

KEYWORDS: -

ABSTRACT PUBLISHED IN: Eur Respir J. 2021; 58(65s):OA4217. doi: 10.1183/13993003.congress-2021.OA4217.

FOR OTHER INFORMATION, CLICK HERE