Oligogenic Approaches to the Predisposition of Asthma in Ethnically Diverse Populations: Analysis of a Multinational Sample

Summary / Zusammenfassung
The genetic analysis of complex disorders influenced by multiple genes as well as multiple non-genetic factors is still an unresolved methodological issue. Using a novel multilocus genotype-to-phenotype research strategy, we are able to quantify between-population, within-population, and within-family genetic similarities. Based on family data from three European ethnicities (Germany, UK, Portugal), our project aims at elucidating ethnicity-independent as well as ethnicity-specific susceptibility to asthma and atopy. The question of ethnicity-independent susceptibility is addressed by treating the German families —ascertained from a population with intermediate prevalences of atopy and asthma— as “training” samples, while the British families —ascertained from a population with high prevalences of atopy and asthma— serve as independent “test” samples, along with the Portuguese families who stemmed from a region with low prevalences of atopy and asthma. Our results will pave the way for systematic investigations into complex disorders, in particular psychiatric disorders, and will allow us to address the question of the extent to which genetic risk factors and their interactions constitute multigenic inheritance across populations and constitute universal targets for treatment.

Publications / Publikationen

Keywords / Suchbegriffe
asthma, atopy, complex disorders, molecular genetics, genetic diversity, population admixture

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