

Risk of asthma in patients with migraine in an adult twin population

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ABSTRACT (246 words)

Background: Asthma and migraine are two common diseases and asthma has been described as “pulmonary migraine”. Studies have suggested a higher prevalence of headache in patients with asthma. The association between these conditions remains unclear.

Aims: 1) To examine the association between migraine and asthma 2) to examine whether the association can be explained by shared genetic or environmental factors.

Methods: 12,449 twins, aged 40-80 years, from the Danish Twin Registry were recruited. The participants completed a questionnaire on medical history, life style factors and participated in a clinical examination. Sex, age, smoking, alcohol consumption and physical activity were included as covariates.

Results: 52% of the participants were females. The mean age was 58.4 years \pm 9.6; mean BMI was 26.6 kg/m² \pm 4.4. The prevalence of self-reported asthma was 8.0%. The lifetime prevalence of self-reported physician-diagnosed (PD)-migraine in the total sample was 10.9% and significantly higher in females vs. males, 15.3% vs. 6.1%, $p < 0.001$. A multiple logistic regression showed an increased risk of asthma in patients with self-reported physician-diagnosed migraine, OR=1.32 (1.10-1.60), $p = 0.004$. The probandwise concordance for asthma was: MZ: 0.27, DZ; 0.17, $p = 0.09$ and for migraine: MZ; 0.42, DZ: 0.18, $p < 0.001$.

Conclusions: In this large nation-wide twin study we found an increased risk of asthma in patients with PD-migraine. Although we were not able to elucidate the role of genetic and environmental factors on the association between migraine and asthma, the results underline the importance of considering undiagnosed asthma in patients with migraine.