Early-Onset Asthma and Early Smoking Increase Risk of Bipolar Disorder in Adolescents and Young Adults

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Abstract : Objective: Studies have reported a strong link between asthma and bipolar disorder. We conducted a 17-year community-based large cohort study to examine the relationship between asthma, early smoking initiation, and bipolar disorder during adolescence and early adulthood. Methods: A total of 162,766 participants aged 11–16 years were categorized into asthma and non-asthma groups at baseline and compared within the observation period. Covariates during late childhood or adolescence included parental education, cigarette smoking by family members of participants, and participant's gender, age, alcohol consumption, smoking, and exercise habits. Data for urbanicity, prednisone use, allergic comorbidity, and Charlson comorbidity index were acquired from the National Health Insurance Research Database. The Cox proportional-hazards model was used to evaluate the association between asthma and bipolar disorder. Results: Our findings revealed that asthma increased the risk of bipolar disorder after adjustment for key confounders in the Cox proportional hazard regression model (adjusted HR: 1.31, 95% CI: 1.12-1.53). Hospitalizations or visits to the emergency department for asthma exhibited a dose–response effect on bipolar disorder (adjusted HR: 1.59, 95% CI: 1.22-2.06). Patients with asthma with onset before 20 years of age who smoked during late childhood or adolescence had the greatest risk for bipolar disorder (adjusted HR: 3.10, 95% CI: 1.29-7.44). Conclusions: Patients newly diagnosed with asthma had a 1.3 times higher risk of developing bipolar disorder. Smoking during late childhood or adolescence increases the risk of developing bipolar disorder in patients with asthma.

Keywords : adolescence, asthma, smoking, bipolar disorder, early adulthood
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