

Association between Asthma and Dysphonia: A Population-based Study

Hallym University College of Medicine
Bumjung Park, MD, Hyo Geun Choi, MD*

Background

We investigated whether asthma predisposes patients to organic laryngeal lesions or increases dysphonia in those without organic laryngeal lesions.

Methods

We performed a cross-sectional study with data from the Korea National Health and Nutrition Examination Survey; 19,330 subjects from 2008 through 2011 were included. The associations of asthma with organic laryngeal lesions and dysphonia were analyzed using a simple/multiple logistic regression analysis with complex sampling while adjusting for confounding factors (age, sex, smoking status, stress level, and body mass index) that could contribute to dysphonia.

Results

Compared with non-asthma participants, the asthma patients tended to be older and female and to have higher stress levels. These factors were associated with dysphonia (Age, AOR=1.20, 95% CI=1.14-1.23, $P<0.001$; female, AOR=1.70, 95% CI=1.33-2.17, $P<0.001$; higher stress, AOR=1.44, 95% CI=1.23-1.69, $P<0.001$). Asthma itself was also

associated with dysphonia. Compared with non-asthma participants, asthma patients who had not taken asthma medication recently showed a higher AOR (1.62; 95% CI=1.0-2.42) for dysphonia, and asthma patients who had taken asthma medication recently showed the highest adjusted odds ratio for dysphonia (AOR=1.97; 95% confidence interval, CI=1.28-3.02, $P=0.001$).

On multiple logistic regression analysis, vocal nodules, laryngeal polyps, and laryngitis were not associated with asthma (all $P>0.05$).

Conclusion

Asthma patients are predisposed to subjective dysphonia due to demographic and clinical characteristics (older age, female, and higher stress level) as well as to asthma itself. However, asthma was not associated with organic laryngeal lesions in this study.

Keywords

Asthma, Voice, Laryngitis, Vocal cord dysfunction, Vocal cord paralysis, Epidemiology, Dysphonia, Larynx