

Association between asthma and clinical mortality/morbidity in COVID-19 patients using clinical epidemiologic data from Korean Disease Control & Prevention

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October 10, 2020

Abstract

Background: The role of asthma as a risk factor for coronavirus 2019 (COVID-2019) morbidity and mortality is inconclusive and not fully understood. The primary objective was to evaluate the association between asthma history and mortality of COVID-19, and the secondary objective was to analyze the risk of COVID-19-related outcomes among patients with asthma compared to those without. **Methods:** Using clinical epidemiologic data from Korean Disease Control & Prevention, the risk for COVID-19-related morbidity and mortality were compared in patients with asthma and those without asthma among the participants who were confirmed to have COVID-19. A Cox proportional hazards regression model was used for mortality, and a linear regression model was used for morbidity scores. **Results:** The hazard ratio for death of patients with asthma versus those without was 2.48 (95% confidence interval (CI) 1.21-5.08, P=0.013) and 2.20 (95% CI 1.02-4.76, P=0.045) after full adjustment. The comorbidity of asthma was associated with an increase in the maximal morbidity score of COVID-19 compared to no asthma (estimated value of morbidity score (EV) = 0.44, 95% CI 0.16-0.73, P=0.003). **Conclusion:** Asthma is associated with an increased risk of mortality and morbidity in the Korean nationwide COVID-19 registry.

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