

Title: Lack of association between atopic dermatitis and SARS-CoV-2 severity

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Conflicts of Interest: None

Funding: None

Acknowledgements: None

Abstract

Background: Previous studies found conflicting results about the relationship between atopic disease and SARS-CoV-2 outcomes. Little is known about the relationship of SARS-CoV-2 with atopic dermatitis (AD) in particular.

Objective: We investigated the relationship of AD with SARS-CoV-2 severity, hospitalization, length of hospital stay, requirement for oxygen therapy and mortality.

Methods: A retrospective cohort study was performed of adult patients with AD and other skin diseases who received SARS-CoV-2 related care at a metropolitan academic medical center in Washington, DC. Logistic regression models were constructed to examine the impact of AD (independent variable) on SARS-CoV-2 severity, hospitalization, length of hospital stay, requirement for oxygen therapy and mortality (dependent variables).

Results: In fully adjusted models, SARS-CoV-2 positive adults with diagnosed AD had no significant differences in hospitalization (adjusted odds ratio [95% confidence interval]: 0.51 [0.20, 1.35]), inpatient visits (0.67 [0.35, 1.30]), severe to critical SARS-CoV-2 (0.82 [0.29, 2.30]), requirement of supplemental non-mechanical oxygen therapy (1.03 [0.39, 2.73]), extended hospital stay (0.43 [0.08, 2.27]) and death (0.002 [<0.001 - >999]) compared to those without other skin diseases. Similar results were observed in unadjusted and partially adjusted models.

Conclusion: AD was not an independent risk factor for SARS-CoV-2 severity or complications compared to other dermatologic diseases. AD was not associated with either protective or harmful effects on SARS-CoV-2 outcomes.