Letters

COMMENT & RESPONSE

In Reply We thank Bradshaw et al for their comments and concerns regarding our recent publication “Association of Public Health Measures During the COVID-19 Pandemic With the Incidence of Infectious Conjunctivitis.” To summarize our findings, we believe that there was a strong association between public health measures that were instituted during the COVID-19 pandemic and a decrease in the transmission of infectious conjunctivitis. Bradshaw et al assert that there may be other factors that led to a decrease in the emergency department (ED) visits during the pandemic, such as the desire to not contract COVID-19 and to vacate medical resources for more emergent conditions, that had a larger effect on patients with infectious conjunctivitis than on patients with our control diagnoses.

While infectious conjunctivitis can have a slow onset with mild symptoms, patients can also develop symptoms rather abruptly to the extent where some can remember the exact moment they became symptomatic. In addition, in severe cases, patients can have difficulty opening or closing their eyes owing to severe chemosis, experience extreme photosensitivity, and have markedly decreased visual acuity. While the academic distinction of whether conjunctivitis-type symptoms are emergent or nonemergent is not settled (a 2021 study categorized it as emergent), patients with more acute, severe symptoms may understandably seek emergent care. In our study, we attempt to measure the delay in onset by modeling the drop in mobility with the drop in search interest.

Furthermore, we do not know what effect COVID-19 had on patients’ level of concern or alertness for conjunctivitis-like symptoms. When Vice President Mike Pence appeared to have conjunctival hyperemia during a Vice Presidential debate, Google Search Trends associated with conjunctivitis saw a sharp increase and news outlets began to speculate that he was infected with COVID-19. This suggests that the public was concerned conjunctivitis-like symptoms could be a sign of COVID-19, and therefore, may have been more likely to seek acute care and evaluation.

Additionally, while the factors mentioned by Bradshaw et al may have played a role in the decrease in ED visits for infectious conjunctivitis, they do not account for the decrease in the internet search volume. The marked decrease in search volume was the primary portion of our analysis and the visits to the ED were a supplementary method used to validate our results. The drop in total ED visits was also accounted for and the measured change was relative to the change in total ED visits. In addition, if the factors noted by Bradshaw et al led to fewer patients with infectious conjunctivitis seeking ED care without a change in the underlying incidence of disease, we would expect increased search volume owing to patients needing to seek information because they did not wish to come to the ED. As an example, while patient presentations for acute coronary syndrome decreased at many EDs during the COVID-19 pandemic, there was an associated rise in Google Search Trends.

We believe that our results supported by all 3 data sets—the search volume data, the cellphone motility data, and the ED visit data—provide evidence that our findings are likely specific to the infectious conjunctivitis incidence, and less likely owing to other confounders.

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