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SARS-CoV-2 and croup, not a rare coincidence



Dear Editor,

We have read this series pertaining to croup and COVID-19, written by Venn and colleagues [1], as described through the cases of three children with presentations of croup as a result of SARS-CoV-2 infections. We have also read the letter to the editor [2] in which the authors argue the presence of COVID is simply a coinfection with other viral etiologies more likely to cause croup. We found it an interesting juxtaposition, and one, based on our local series of cases, we feel is relevant in our current global pandemic.

In November 2021, we had a two year old male present as a repeat visit with a barking cough, inspiratory stridor, nasal congestion, and fever for two days. They were given Dexamethasone and two doses of racemic epinephrine and were transferred to a nearby pediatric ICU for higher level of care. This patient's Respiratory Viral Panel was negative for all 17 viruses tested in the panel, including RSV, Influenza A/B, and four types of Parainfluenza. The only positive viral infection in the patient was SARS-CoV-2 by PCR.

In December 2020, we had a seven month old female present with a barking cough, inspiratory stridor, and nasal congestion for two days. They were given aerosolized treatment and Dexamethasone and obtained significant enough improvement to be discharged home. This infant was RSV and Influenza A/B negative, and COVID-19 positive by PCR. In addition, in May 2021, a five year old male presented with a barking cough, subcostal and sternal retractions, tachypnea, and fever for two days. They were given Dexamethasone and Racemic Epinephrine to stabilize and were transferred to a nearby pediatric hospital. This patient was also RSV and Influenza A/B negative, and COVID-19 by PCR positive. In August 2021, we had a four year old male present with a barking cough, inspiratory stridor, and tachypnea of two days. They were given Dexamethasone and Racemic Epinephrine to stabilize and were discharged home upon significant improvement. Similar to the above two patients, this patient also tested to be RSV and Influenza A/B negative and COVID-19 by PCR positive.

Within our review of children presenting with the traditional croup-like symptoms ("barking cough, stridor, dyspnea [3], we have at least three more cases, in addition to the four mentioned above, that were negative for other viruses and only positive for COVID-19 by PCR. The clinical relevance lies in the fact that all required emergency department resuscitation and all were negative for other pathogens. Of note, croup is most commonly known to be caused by viral infections,

primarily Parainfluenza virus [4], however other studies have shown that a different Coronavirus (Human coronavirus NL63) is the second common cause of croup [5]. This should lead clinicians to suspect and test for a possible SARS-CoV-2 Infection as well as appropriately isolate. It is also relevant in that it may help us prepare for treatment, and a possibly prolonged/or complicated course of infection. We strongly dispute the previous letter to the editor and state our support for the initial case series and need for further investigation of this 'novel' presentation of laryngotracheitis of SARS-CoV-2 in children.

Declaration of Competing Interest

The authors report no conflicts of interest.

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