



# Influenza and Covid-19 in Children: Time to Have a Close Watch!

Aparna Kori<sup>1</sup> · Vinod H. Ratageri<sup>1</sup> · C. A. Gopalakrishna Mithra<sup>1</sup>

Received: 8 December 2021 / Accepted: 31 January 2022 / Published online: 11 March 2022  
© The Author(s), under exclusive licence to Dr. K C Chaudhuri Foundation 2022

*To the Editor:* SARS-CoV-2 and influenza are both RNA viruses with similar clinical presentations [1]. Influenza B virus was less virulent and have a lower pandemic potential. Fatal influenza B virus infections are rare but are associated with bacterial pneumonia and cardiac injury [2]. Herein we describe influenza myocarditis, mimicking COVID-19 initially.

A 3-y-old male child presented with fever, cough, hurried breathing of 4 d. At admission, child was sick, tachypneic (66 cpm) and hypoxic (SpO<sub>2</sub> - 88% on RA). Bronchial breath sounds were heard over bilateral mammary, infrascapular area with heart rate variability (110–170). Investigations revealed, Hb - 7.8, TLC - 7900, normal platelet count, RFT/serum electrolytes - normal, CRP - 13 mg/L, Troponin I - 0.645 ng/mL, Ferritin - 184 ng/mL, D dimer - 450 ng/mL. Chest radiograph showed bilateral fluffy shadows. No growth on blood culture, 2D ECHO - normal, RT-PCR (COVID-19) - negative, but TaqMan real time RT-PCR for influenza B was positive. Child was treated with IV antibiotics, oseltamivir, dobutamine and required HFNC support. Child became afebrile after 48 h, no further heart rate variability and radiograph improvement noted.

Severe lung infection and myocardial involvement along with radiological appearance are known to occur in diseases caused by SARS-Cov-2 and influenza viruses leading to a diagnostic dilemma. Our child had acute respiratory distress, hypoxia, heart variability, and chest radiograph showed fluffy shadows bilaterally suggestive of viral pneumonia/myocarditis (more so SARS-Cov-2). Influenza was tested due to the epidemic of influenza in our area. Myocardial

involvement in influenza is rare and variable [3]. The pathogenesis is attributed to direct viral infection and inflammatory immune responses [4]. Though influenza infections are seasonal, still possibility of these in this pandemic time in children should be kept. Influenza B, usually known to cause milder illness when compared to influenza A, may sometimes lead to fatal diseases. To conclude, a high index of suspicion of Influenza B is needed in cases of viral myocarditis.

## Declarations

**Conflict of Interest** None.

## References

1. Song X, Delaney M, Shah RK, Campos JM, Wessel DL, DeBiasi RL. Comparison of clinical features of COVID-19 vs seasonal influenza A and B in US children. *JAMA Netw Open*. 2020;3:e2020495.
2. Paddock CD, Liu L, Denison AM, et al. Myocardial injury and bacterial pneumonia contribute to the pathogenesis of fatal influenza B virus infection. *J Infect Dis*. 2012;205:895–905.
3. Mamas MA, Fraser D, Neyses L. Cardiovascular manifestations associated with influenza virus infection. *Int J Cardiol*. 2008;130:304–9.
4. Kalil AC, Thomas PG. Influenza virus-related critical illness: pathophysiology and epidemiology. *Crit Care*. 2019;23:258.

**Publisher's Note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

✉ Vinod H. Ratageri  
ratageri@rediffmail.com

<sup>1</sup> Department of Pediatrics, Karnataka Institute of Medical Sciences, Hubli, Karnataka 580021, India