

Case Report

Turbinate Dysfunction as a presenting feature in Paediatric COVID-19 Infection: A case report from Southern Zambia

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ABSTRACT

Children with upper respiratory tract symptoms should be suspected and screened for COVID-19, given the mild presentation of the disease in this population. We present a case of a 1 year old who presented with features of turbinate dysfunction and a history of COVID-19 suspect contact-mother.

INTRODUCTION

Coronavirus disease 2019 (COVID-19) is caused by a beta-ribonucleic acid novel coronavirus, also referred to as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2; formerly called 2019-nCoV). Globally recent data shows that by age, 8.2% of COVID-19 cases are in children below 17 years. Symptoms of both upper and lower respiratory tract infections have been shown to be the most common presenting features.

Cough as a symptom accounted for more than half of all the children admitted in Chicago, Illinois, with COVID-19 positive results. Symptoms of coryzal illness have also been reported as a common feature. Other reported symptoms include fever, with others being asymptomatic. Increased sleepiness has been

reported in a five-week-old infant who was asymptomatic for coryzal illness or other COVID related symptoms. However, no case definition has been coined.

Turbinate dysfunction has not been reported as one of the presenting symptoms in children with COVID-19 infection. Turbinate dysfunction is commonly seen in Allergic rhinitis, vasomotor rhinitis, and environmental irritants. It is also commonly seen in viral infection presenting with symptoms and symptoms of coryzal illness. Some drugs like aspirin and ibuprofen can potentially cause similar symptoms. We report a case of turbinate dysfunction as one of the early presenting symptoms in a 1 year old male at Livingstone Central Hospital.

Case History:

A 1 year-old Zambian male infant presented to the emergency department (ED) with a four-day history of difficulty and noisy breathing. There was a history of fever on and off and the mother was giving paracetamol syrup prior to presentation to the ED. There was no history of runny nose prior to admission. The noisy breathing was said to be worse at night. This was the first presentation, with no history of cough, atopy, or allergies. The infant had normal urinary and bowel habitus. He was tolerating

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Keywords: COVID-19 infection, turbinate dysfunction, Allergic rhinitis, Tonsillitis, SARS-CoV-19 mRNA

feeds poorly and would easily get tired when breastfeeding. There was a positive history of the mother having COVID-19, and she had symptoms suggestive of COVID-19. She had anosmia, malaise, and other non-specific symptoms. Prior to these symptoms she was otherwise healthy.

Both the past medical and family histories were unremarkable with no asthma or any known allergies. He had a normal birth and developmental history. He was up to date with vaccinations and had a normal growth curve on his under-five monitoring card.

On examination, he was alert and active with normal vitals - temperature 36.8°C, Oxygen saturations at 94% room air. Weight for height was +1 standard deviation, pulse and respiratory rates were 156 beats per minute and 48 breaths per minute, respectively, with a blood pressure of 105/72 mmHg above the 95th centile for age and height for both the systolic and diastolic blood pressure. Of note is his subsequent blood pressure recordings were below the 75th centile. He was not pale or jaundiced, and his nutritional status was normal. He had noisy breathing, bilaterally enlarged turbinates, and inflamed tonsils with no exudates. He had bilateral equal air entry with vesicular breath sounds.

The infant was admitted and treated for acute tonsillitis with turbinate dysfunction. A Full blood count showed hemoglobin of 13g/dl, white cell count of $8.2 \times 10^9/l$. The differential count was normal. Renal and liver function tests were normal. Inflammatory markers were not done. He was started on cefotaxime at 50mg/kg every 6 hours intravenously with normal saline nasal drops per need. A COVID-19 Polymerase Chain Reaction test was positive and reported 48 hours after admission.

The infant remained afebrile, and oxygen saturations were ranged between 95% to 97% during hospital stay on room air. After three days of IV antibiotics, the inflamed tonsils had markedly reduced with improved feeding. The noisy breathing, however, persisted.

The infant was discharged on day four on cefalexin at 25mg/kg twice daily for seven days, and nasal saline drops as he was considered moderate COVID-19 and advised the mother to self-isolate, which was adhered to. By the tenth day post-discharge, the mother reported improved, albeit continued, noisy breathing. The infant was able to feed better at the time, and breastfeeding had improved markedly. There was complete resolution of all the symptoms by day fifteen, and the baby was discharged from the community management of COVID-19 as per local protocol.

DISCUSSION

At the time of writing, we did not come across any published turbinate dysfunction as a feature of Paediatrics COVID-19 infection. Around the world, the focus has been on the Adult population. COVID-19 infection in children presents with non-specific features, with over 45% being asymptomatic. Cough and fever account for the most common symptoms and other features reported include rhinorrhea, sore throat and stuffy nostrils.

According to the Zambian Ministry of Health guidelines and standard operating procedures for coronavirus, a suspected COVID-19 is defined as “A person with acute respiratory illness (fever and at least one sign or symptom of respiratory disease like cough, sore throat, headache, fatigue, shortness of breath), AND a history of travel to or residence in a country, area or territory reporting local transmission of COVID-19 during the 14 days prior to symptom onset.”¹⁰

The evolving symptomatology of COVID-19 necessitates frequent revision of the case definition that is tailored to different age groups, as there is already a high incidence of respiratory diseases in children such as pharyngitis in sub-Saharan Africa and coryzal illness.

Our patient presented with atypical features viz a viz inflamed turbinates and tonsils with prolonged noisy breathing. The authors are of the view that the presentation is not otherwise unusual given the

affinity of SARS-CoV-2 to nasopharyngeal cells. Therefore, clinicians should have a high index of suspicion for COVID-19 in children presenting with respiratory infections. Other viruses like adenoviruses, Epstein-Barr Virus, parainfluenza viruses, and rhinoviruses cause turbinate dysfunction. Screening for other possible viral causes was not done as the tests are not available in our hospital. The patient was considered low risk, and was therefore treated as an outpatient and advised to self-isolate as per local policy. The mother was advised to bring back the infant to hospital if she had any concerns or there was development of any new symptoms. Despite there being low mortality and morbidity in the paediatric population, Haiyan Qiu et al have shed light on this under-represented population, and the importance of their link as facilitators of viral transmission cannot be downplayed.

CONCLUSION

With similar presentation to other respiratory viral infections coupled with the mild presentation, a paediatric COVID-19 patient has a high chance of being missed. Therefore, public health authorities and clinicians are encouraged to investigate and track not only paediatric COVID-19 infected patients but also suspected cases. Reinforcement of preventive efforts is paramount as children are likely to be found in crowded settings like childcare centers and schools.

Conflict of interest: Authors declare no conflict of interest.

Ethical consideration: Consent was obtained from the guardian.

Financial support: Nil

Author contribution: All authors were involved in the writing and case management of the patient.

Acknowledgment

We are thankful to the parents of the patient for granting us permission for this case report.

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