SARS-CoV-2 infection presented as acute exacerbation of bronchial Asthma

Dear Editor,

The varied presentation of acute respiratory illness from SARS-CoV-2 poses a diagnostic challenge to the physician. The classic presentation of fever, cough and shortness of breath is often not reported in a number of patients. We report a case of acute respiratory illness in a middle-aged asthmatic man who presented with acute severe bronchospasm.

A 59-year-old male patient presented in emergency department with a history of shortness of breath for 5 days and he was immediately shifted to the screening intensive care unit (ICU) as dyspnea was rapidly increasing. He was a known case of bronchial asthma for 4 months and type 2 diabetes for 2 years, on regular medical management. He denied any history of fever and cough or any relevant contact history. On arrival in the ICU, he was conscious and oriented, but dyspneic, using accessory muscles of respiration with respiratory rate of 28 per minute and maintaining SpO2 of 86% on room air. The rest of the hemodynamic parameters were stable. Lung ultrasonography showed B profile in zone 1 of right lung with shredding. The other lung zones were normal. Oxygen supplementation by face mask, and nebulization with salbutamol were started and intravenous hydrocortisone 100 mg was administered. Nasal and throat swabs were sent for real time polymerase chain reaction (RT-PCR) for SARS-CoV-2 identification. However, despite of medical management, respiratory rate increased to 40 and SpO2 decreased to 65-70% and altered sensorium was also noted. Immediately, endotracheal intubation was performed by videolaryngoscope after administering intravenous propofol 2 mg/kg and rocuronium 1.2 mg/kg. Mechanical ventilation was initiated by volume-controlled ventilation with a tidal volume of 350 ml, respiratory rate of 18/m and an initial PEEP of 5 cm H2O. A peak airway pressure of 45 cm H2O and a plateau airway pressure of 25 cm H2O was noted which further supported the diagnosis of acute bronchospasm. Intravenous magnesium sulphate of 2 gm administered followed by intravenous ketamine infusion which decreased peak airway pressure to 35 cm H2O and SpO2 increased to 95%. RT-PCR revealed that the patient was infected with SARS-CoV-2.

Viral respiratory infections are often implicated as an inciting event for acute exacerbation of bronchial asthma[1] and asthma is associated with adverse outcome in patients with viral respiratory infection.[2] SARS-CoV-2 exhibited a diverse range of clinical symptoms including the classic triad of fever, cough and shortness of breath.[3] However, majority of the large series did not actually mention the proportion of asthmatic patients who were infected with SARS-COV-2.[4] Richardson et al. mentioned 9% of the cases had bronchial asthma as a comorbidity but the presentation as acute exacerbation of asthma was not described.[5] The presentation in our patient was unique, as he presented with only rapidly progressive dyspnea without any other clinical feature. In the era of current pandemic, SARS-CoV-2 must be kept as a differential diagnosis in any patient who is presenting with acute exacerbation of asthma.

Declaration of patient consent
The authors certify that they have obtained all appropriate patient consent forms. In the form the patient has given his consent for his images and other clinical information to be reported in the journal. The patient understands that his name and initials will not be published and due efforts will be made to conceal his identity, but anonymity cannot be guaranteed.

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Conflicts of interest
There are no conflicts of interest.

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Dear Editor,

Goggles are recommended for protection of eyes from the SARS-CoV-2 virus both by the Center of Disease Prevention and Control and World Health Organization [1,2] but fogging inside the goggles is common.

Fogging inside goggles decreases quality of vision and performance ability of the healthcare worker potentially compromising quality of clinical care. The exact cause of fogging is not known. The leaking of expired air into the goggles may be the culprit. However, fogging happens frequently even after using N95 facemask with proper fitting. The temperature difference between the outer and inner surface of the goggles is responsible for the condensation of water and, hence fogging. Warm expired air causes condensation of water droplets to accumulate in the relatively cooler surface of goggles. We are hereby reporting a simple and effective solution for fogging in this scenario.

We are using a commercially available polypropylene-based anti-fogging solution [Nabaiji Swimming Goggles Anti-Fog Marker, imported by Decathlon Sports India Private Limited, Bangalore] for reducing fogging inside the goggles used as a part of personal protective equipments (PPE). The package insert of the antifogging marker suggests that it’s applied on the inner surface of the goggles and to be dried for 1 minute. We paint the entire inner surface of the goggles with the antifogging marker and after drying, wear it in the usual fashion [Figure 1]. The goggles should be immersed in the water before wearing so that the anti-fogging marker is evenly applied. However, we are using it without immersing the goggles into water and in our experience, fogging is minimal up to >4h of use at least.

The antifogging marker contains propylene glycol butyl ether, 2-(2-butoxyethoxy) ethanol, fluorocarbon hydrocarbon, potassium hydroxide, and magnesium lauryl sulfate. It is postulated that antifogging chemicals decreases surface tension between two liquids and a liquid and solid, thereby reducing the condensation of water droplets.

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