Case Report

Case reports: Persistent hiccup as an atypical presentation of COVID-19 infection in a vaccinated subject

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ABSTRACT

Introduction: and Importance: COVID-19 have wide array of clinical manifestation involving both respiratory and non-respiratory symptoms including neurological symptoms. Hiccups is the involuntary and spasmodic movement of the diaphragm and the intercostal muscle that leads to the closure of the glottis and limitation of breathing in air.

Case presentation: We present a case of a 72-year old SARS COV-2 positive male with hypertension who have persistent hiccup. The patient is a vaccinated subject with 2 dose of Vero cells.

Clinical findings and investigations: Vitals were stable.Mild dehydration was present.Bilateral Diffuse wheeze was present on Respiratory examination. No other abnormalities were detected during systemic examination.Imaging of his chest revealed bilateral mid-lung opacities and air bronchogram.

Interventions and outcome: Perisitent hiccup was treated with metoclopramide. The hiccups reduced as the patient required less oxygen supplementation and inflammatory indicators decreased.

Relevance and impact: This case report tends to provide information and awareness among physicians regarding this atypical presentation of the disease.

1. Introduction

1.1. Background and rationale

Covid 19 which was identified in the humans in the year 2019 December, an infectious disease caused by SARS Cov 2. WHO confirmed total of 515,192,972 cases of Covid 19 till May 9, 2022 [1] its clinical symptoms including respiratory and non respiratory symptoms which also includes neurologic symptoms [2].

Hiccups are the involuntary and spasmodic movement of the diaphragm and the intercostal muscle that leads to the closure of the glottis and limitation of breathing in air [3,4].It is a self limiting condition can be bothersome if they persist more than 48 hours so the underlying cause should be identified by taking a detailed history, physical examination and required diagnostic test [4-6].

In one of the systemic review and meta analysis article, which included paper published between January 1, 2020 to April 2, 2020, most common clinical symptoms of the patient was Fever 81.2% followed by cough 58.5%, fatigue 38.5%, dyspnea 26.1% and the sputum 25.8% [7].

Although covid 19 showed the common clinical presentation of myalgia, dizziness, headache, fever, dry cough, progressive dyspnea, gastrointestinal symptoms and respiratory distress, hiccups is one of the symptoms that is documented recently [3].

Guidelines: SCARE 2020 paper [13].

This case report has been reported in line with the SCARE Criteria.

We discuss a case report of a 72 years old male patient who was hypertensive and a smoker, covid 19 positive with hiccup being only the clinical manifestation.
2. Case Presentation

2.1. Patient information: Demographics and presentation

A 72-year-old man with a history of hypertension reported to our hospital with epigastric burning pain and fever that had been present for one week. He also has been experiencing hiccups for the past five days. Cough, dyspnea, loss of smell, taste, chills, headaches, palpitation, stomach discomfort, nausea, vomiting, changes in urine or bowel habits, sick contacts, or recent travels were all denied. He had never had hiccups, hiatal hernia, conversion disorders, or any other gastrointestinal problems.

2.2. Past medical and surgical history

He gives history of Hypertension.

2.3. Drug and allergy history

Pantoprazole was his only drugs.

2.4. Family history

He denied history of similar illness in family as well.

2.5. Social history

He smokes five cigarettes per day but denies drinking or using illegal drugs. He received 2 doses of Verocell vaccination of SARS-Cov-2.

2.6. Clinical findings

Initial vitals reported a 97.3°F temperature, 76 beats per minute heart rate, 18 breaths per minute respiratory rate, 158/72 mmHg blood pressure, and 97% saturation of room air. Mild dehydration was noted during the physical examination, but no murmurs, rubs, or gallops were noted. There were no rales or rhonchi on pulmonary examination, although there were diffuse bilateral wheezes.

2.7. Diagnostics assessment and interpretation

The electrocardiogram (ECG) revealed a sinus rhythm. Troponin levels were low. An X-ray of the chest revealed bilateral mid-lung opacities (Fig. 1). The CT scan showed ground glass opacity of mosaic attenuation with vascular dilation and few air bronchogram in bilateral lung (Figs. 2 and 3).

D-dimer was 1500 (normal range: 500), ferritin was 1206 ng/mL (normal range: 24–336 ng/mL), LDH (lactate dehydrogenase) was 513 U/L (normal range: 123–224 U/L), and CRP (C-reactive protein) was 32 mg/dl (normal range: 0–0.8 mg/dl), lactic acid was 3.2 mmol/L (normal range: 0–2). All of the tests for liver function, renal function, calcium, and electrolytes were normal. Blood cultures, a quick influenza test, Legionella Ag, and antibodies to Mycoplasma pneumonae were all negative. The CT-value of his nasopharyngeal SARS-CoV-2 RT-PCR (reverse transcriptase-polymerase chain reaction) was 14.

2.8. Intervention

The patient was started on azithromycin after receiving one dosage of ceftriaxone. He was also given pantoprazole 40 mg every day to prevent stress ulcers.

However, after admission, the patient began to desaturate, necessitating oxygen supplementation and the administration of Prednisolone 40 mg daily. The patient’s hiccups were so severe on the sixth day of presentation that his oxygen saturation ranged between 70 and 80%. In addition, he was flushed, and he had difficulty eating and breathing. He was then started on 10 mg of Baclofen three times a day, but it had no effect. So it was changed to metoclopramide, which helped with the hiccups to some extent.

2.9. Outcome

The hiccups reduced as the patient required less oxygen supplementation and inflammatory indicators decreased.

3. Discussion

Since the start of COVID-19 pandemic the disease has shown a wide range of signs and symptoms. The common symptoms of COVID-19 being fever, malaise, loss of taste and smell, cough, dyspnea, headache and in severe cases organ dysfunction correlating to shock, acute kidney injury, ARDS too. However with increasing collection of data around the world regarding COVID-19 many atypical presentations have been reported. We here present a case of COVID-19 with atypical presentation of persistent hiccups.

Fig. 1. Chest Xray (posterolateral view) showing bilateral opacities.

Fig. 2. CT chest showing patchy opacity in the right lung with bilateral vascular dilata.
When a thorough literature review was carried out we found out 10 reported cases of COVID-19 with hiccup. The first case of COVID-19 with persistent hiccups was reported in July 2020 by Prince and Sergel in a 62 year old man with COVID-19 pneumonia [8]. Similarly, persistent hiccup and COVID-19 pneumonia was reported by Bakheet [9]. The exact mechanism of hiccup tends to remain unclear and there is no clear association between COVID pneumonia and hiccup. However, literature review has shown persistent hiccups being associated with infectious causes like bronchitis, pneumonia, asthma, tuberculosis, rhinitis, otitis and pharyngitis [10]. This is possibly due to inflammation of phrenic and vagus nerve from inflammatory mediators released due to infection. When a literature search was carried out the meta analysis done in patient with persistent hiccup and covid-19 suggested that COVID-19 related pneumonia can injure peripheral nerves most frequently vagus or phrenic which supplies the diaphragm causing its irritation resulting in hiccup [11]. The patient in our case had severe persistent hiccups with oxygen desaturation but with treatment with antibiotics, prednisolone both his oxygen supplementation and inflammatory markers started decreasing further pointing out that COVID-pneumonia might have caused the irritation of diaphragm causing intractable hiccups.

The patient in our case was treated with Baclofen which provided him with no relief. He was then switched to metoclopramide which provided him partial relief but the patient improved only after his clinical and laboratory parameters started improving.

Though the patient in our case was vaccinated he acquired COVID pneumonia which may have caused his intractable hiccups. This case tends to provide information about the atypical presentation of this disease and also that as COVID pneumonia improved in this patient his hiccups improved eventually. Similar case was reported in a 61 year old man with COVID pneumonia where hiccups were partially relieved with metoclopramide and after the patient showed clinical improvement with treatment [12].

SARS-COV-2 can present with a wide range of extrapulmonary manifestations and persistent hiccups can be one of them. It is important to consider COVID-19 as differential and take necessary precautions when a patient presents with persistent hiccups.

3.1. Take away lesson

COVID-19 has a wide varieties of pulmonary and extrapulmonary manifestations. This case report tends to provide information and awareness among physicians regarding this atypical presentation of the disease.

3.2. Informed consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Ethical approval

None.

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Author contributions

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Registration of research studies

Name of the registry:

Unique Identifying number or registration ID:

Hyperlink to your specific registration (must be publicly accessible and will be checked):

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Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Declaration of competing interest

There is no any conflicts of interest with this article.

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