

**LETTER**

# A case of COVID-19 pneumonia presenting with acute urticaria

Dear Editor,

A 53-year-old male applied to the emergency room with complaints of generalized pruritus and rash which continued for about 48 hours. He had no previous history of atopic conditions including drug or food allergy, chronic urticaria, and so forth. He had quitted smoking 10 years ago after smoking 20 pack-years of cigarettes. He had a history of being abroad 10 days ago. Body temperature was 36.6°C, heart rate was 80 bpm, blood pressure was 110/70 mm Hg, oxygen saturation breathing room air was 98%. Physical examination revealed edematous and itchy plaques throughout the body (Figure 1). Any other abnormal finding was not recorded in physical examination and auscultation of chest was also normal. In his posterior-anterior chest graphy, right diaphragm was slightly elevated accompanied by infiltration of the lower part of the right lung (Figure 2). Computed tomography revealed patchy infiltrations bilaterally in both lungs (Figure 3).



**FIGURE 1** Edema, itchy, and red multiple plaques in the right forearm

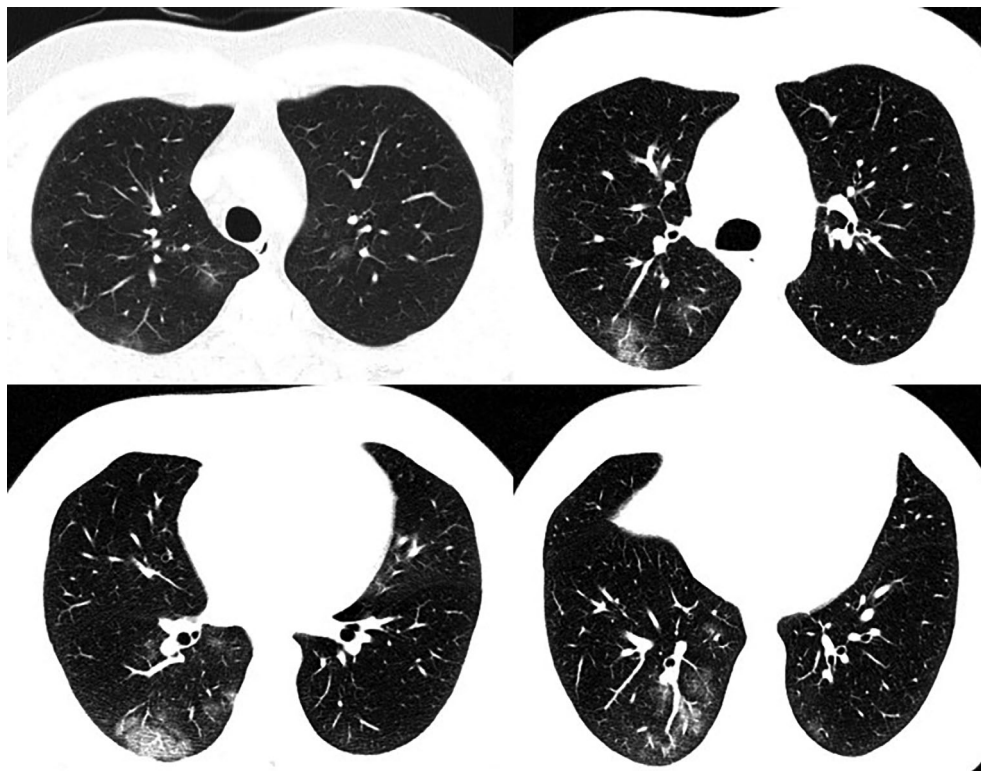
Complete blood count was within normal levels; white blood cell count: 9.200/ $\mu$ L, platelet count: 276.000/ $\mu$ L, hemoglobin:15.2 g/dL, hematocrit: 44.7%, lymphocyte count: 2500/ $\mu$ L (34.7%), eosinophil count: 0/ $\mu$ L (0.1%). C-reactive protein was elevated to 9.12 mg/L. Serum biochemistry was within normal limits; blood urea nitrogen: 36 mg/dL, creatinin: 0.9 mg/dL, alanine aminotransferase:22 U/L, aspartate aminotransferase:12 U/L, lactate dehydrogenase:195 U/L, sodium:138 mEq/L, potassium:3.88 mEq/L.

The patient was hospitalized with a preliminary diagnosis of COVID-19 pneumonia. Severe acute respiratory syndrome coronavirus-2 (SARSCoV-2) PCR result in the combined nasal-throat swab sample taken at the patient's hospitalization was negative. However, with the strong possibility of radiological COVID-19 pneumonia, a second swab sample was sent and the result was found positive. Treatment was started with the diagnosis of COVID-19 pneumonia. On the fourth day of his admission, his skin lesions regressed and he was discharged on the fifth day of his admission. Written informed consent was obtained from the patient.

Urticaria is a dermatologic condition that presents with pruritic, well-circumscribed, raised wheals. Its lifetime prevalence of approximately 20%. Urticaria that recurs within a period of less than 6 weeks



**FIGURE 2** Rise and retraction of the right diaphragmatic medial part in posterior-anterior chest X-ray



**FIGURE 3** Thorax tomography revealing infiltration areas with focal ground glass density in both lung parenchyma

is acute.<sup>1</sup> Most common causes of urticaria are allergens, food pseudoallergens, insect envenomation, drugs, and infections. Viruses (eg, rhinovirus, rotavirus, Epstein-Barr, hepatitis A, hepatitis B, hepatitis C, herpes simplex, human immunodeficiency virus), bacteria (eg, urinary tract infections, streptococcus, mycoplasma, *Helicobacter pylori*), and some parasites are infectious agents associated with urticaria.<sup>1</sup>

Coronaviruses are a large family of viruses. The most recently discovered coronavirus causes COVID-19 which was unknown before the outbreak began in Wuhan, China, in December 2019.<sup>2</sup> As the COVID-19 outbreak continues to evolve, we are learning more about this new virus every day.

Fever, tiredness, and dry cough are the most commonly encountered symptoms of COVID-19, followed by aches and pains, nasal congestion, runny nose, sore throat, or diarrhea. On the contrary, some people become infected but stay asymptomatic as they do not feel unwell.<sup>2</sup>

World Health Organization denotes that COVID-19 should be suspected in (a) a case with acute respiratory illness (fever and at least one sign/symptom of respiratory disease, for example, cough, shortness of breath), and a history of travel to or residence in a location reporting community transmission of COVID-19 disease during the 14 days prior to symptom onset; (b) a case with any acute respiratory illness and having been in contact with a confirmed or probable COVID-19 case in the last 14 days prior to symptom onset should also be diagnosed as COVID-19; and (c) a case with severe acute respiratory illness (fever and at least one sign/symptom of respiratory disease, for example, cough, shortness of breath; AND requiring

hospitalization) together with the absence of an alternative diagnosis that fully explains the clinical presentation. Probable case for COVID-19 is defined as (a) a suspect case for whom testing for the COVID-19 virus is inconclusive; or (b) a suspect case for whom testing could not be performed for any reason. Confirmed case is a case with laboratory confirmation of COVID-19 infection, irrespective of clinical signs and symptoms.<sup>3</sup>

Full clinical spectrum of the disease COVID-19 is yet unknown. Zhang et al reported the clinical characteristics of all hospitalized patients admitted to No. 7 Hospital of Wuhan from January 16 to February 3, 2020 with clinical diagnosis of viral pneumonia and confirmed test results for SARS-CoV-2. They have outlined past medical history and presenting symptoms of 140 patients infected with SARS-CoV-2. Sixteen patients had self-reported medical history of drug hypersensitivity and two patients reported chronic urticaria. None of the subjects declared other allergic diseases including asthma, allergic rhinitis, food allergy, atopic dermatitis. Regarding symptomatology of the study population according to the report of Zhang et al none of the subjects presented with allergic reactions or skin lesions.<sup>4</sup> However, as COVID-19 has spread quickly across the world, awkward signs and symptoms associated with the disease have been reported. Among them cutaneous manifestations including acute urticaria and inflammatory and vascular skin lesions have been reported (Table 1).<sup>5-7</sup> On the other hand, the development of skin findings during follow-up in patients with COVID-19 diagnosis may be related to the drugs used.<sup>8</sup>


The present case has also presented with skin lesions. He, unlike other cases, had no respiratory or systemic complaints. The reason for

**TABLE 1** Skin findings detected in the course of COVID-19 infection

Author	Article type	Subject(s)	Presenting symptoms	Defined lesion
Henry et al. <sup>5</sup>	Case report	27-year-old female	Odynophagia, diffuse arthralgia, and pruritic disseminated erythematous plaques eruption with particular face and acral involvement	Acute urticaria
van Damme et al. <sup>6</sup>	Case report	71-year-old man and 39-year-old female	Case 1: General weakness, pyrexia, and a cutaneous rash Case 2: Generalized, pruritic urticarial rash on her forearms, pyrexia with chills, myalgia and headache, rhinorrhea, dry cough, and dyspnea	Acute urticaria
Bouaziz et al. <sup>7</sup>	Observational study	N/A	N/A	Inflammatory lesions (exanthema, chicken pox like vesicles, cold urticaria) and vascular lesions (violaceous macules with "porcelain-like" appearance, livedo, non-necrotic purpura, necrotic purpura, chilblain appearance with Raynaud's phenomenon, chilblain, eruptive cherry angioma)

investigating COVID-19 in the case was that no reason to explain acute urticaria was found and he has been to a country where COVID-19 was prevalent.

To conclude, it should be kept in mind that the presence of newly developing and unexplained skin findings may be a COVID-19 finding. In addition, the development of skin findings during follow-up in patients with COVID-19 diagnosis may be related to the drugs used.

Tuğba Naziroğlu<sup>1</sup> 

Semih Sözen<sup>1</sup>

Pınar Özkan<sup>1</sup>

Selahattin Şeker<sup>1</sup>

Kurtuluş Aksu<sup>2</sup>

<sup>1</sup>Pendik Devlet Hastanesi, İstanbul, Turkey

<sup>2</sup>Division of Immunology and Allergy, Department of Chest Diseases, University of Health Sciences Atatürk Chest Diseases and Chest Surgery Education and Research Hospital, Ankara, Turkey

#### Correspondence

Tuğba Naziroğlu, Pendik Devlet Hastanesi, İstanbul, Turkey.  
Email: tubakara88@hotmail.com

#### ORCID

Tuğba Naziroğlu  <https://orcid.org/0000-0002-5516-3937>

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