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Review Article

Cutaneous presentation of COVID-19, Case Report

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Abstract

COVID-19 has high transmissibility and infectivity among human. On January 30, 2020, the World Health Organization (WHO) in an effort to slow down the global spread of the virus declared the outbreak, "A global public health emergency of international concern". The skin manifestations of the novel coronavirus COVID-19 were not recognized at the early stages of the pandemic but have received much recent attention in scientific journals. Reported manifestations range from pseudo-chilblains to a morbilliform (measles-like) exanthem, urticaria, vesicular eruptions, a dengue-like petechial rash and ovate scaling macules, and plaques mimicking pityriasis rosea.

Keywords: COVID-19; coronavirus; skin manifestations

Case Report

Female patient, 30 years old, presented to the Emergency Department with fever, dry cough, and dyspnea. She gave a history of contact with COVID-19 positive case, she developed maculopapular and vesicular lesions on both hands and feet, some lesions were blackish in color on the third day of admission to the hospital.

On Examination

She was febrile, her temperature was 38.8°C, her blood pressure was 100/70 mmHg with a heart rate of 90 beats/minute, respiratory rate of 27 breaths/minute, and oxygen saturation of 84% in room temperature air. She had maculopapular and vesicular lesions on both hands and feet, some lesions were blackish in color, as shown in figures 1 & 2.

Figure 1: Multiple ulcers with Chilblains like lesions in the toes of left foot, and gangrenous like lesions in the big and little toes

Figure 2: Papulovesicular lesions with inflammation in the palm.

Laboratory Investigations

As regards her complete blood count:White blood cell count (WBC) of 3.57 10^3/µL (L) (Reference Range:4 – 11 10^3/µL), with a mild leucopenia, mild relative monocytosis, and moderate absolute lymphopenia. Red blood cell count (RBC) of 3.36 10^6/µL (L) (Reference Range: 3.8-5.4 10^6/µL) with a hemoglobin of 10.9gm/dL (L) (Reference Range: 11.5-16gm/ dL), hematocrit of 32.4% (L) (Reference Range: 40- 50%). Platelet count of 106 10^3 /µL (L) (Reference Range:150-450 10^3/µL).

As regards her chemistry:

Her random glucose of 70 mg/dL (N) (Reference Range: 70-140mg/dL), blood urea of 20.60mq/dL (N) (Reference Range: 20-48mq/dL),

creatinine of 1.99 mq/dL (H) (Reference Range: 0.6-1.2mq/dL), SGOT(AST) (30µ/L) (N) (n 0-42µ/L), SGPT(ALT) (14µ/L) (N) (Reference Range: 0-33 µ/L).

As regards her coagulation profile:

Partial thromboplastin time (PTT) was (89.4 sec.) (H) (Reference Range: 26-40 seconds), Thromboplastin time (PT) of (16.60 sec.) (H) (Reference Range: 11-14.5 seconds), and INR of 1.30% (H) (Reference Range 0.8-1.2%).

RT-PCR positive for COVID-19

Discussion

Coronaviruses belong to the family Coronaviradae, order Nidovirales, and can be further subdivided into four main genera (Alpha-, Beta-, Gamma-, and Delta-coronaviruses). Several Alpha- and Betacoronaviruses cause mild respiratory infections and common cold symptoms in humans, whereas others are zoonotic and infect birds, pigs, bats, and other animals. In addition to COVID-19, two other coronaviruses, SARS-CoV and MERS-CoV, caused large disease outbreaks that had high lethality rates (10%–30%) and widespread societal impact upon emergence [1].

Currently in December 2019, a new infectious respiratory disease emerged in Wuhan, China that caused a severe respiratory illness which is now termed coronavirus disease discovered in 2019 or COVID-19 for short [2].

COVID-19 rapidly spread in china. This novel coronavirus is similar to SARS-CoV in their genetic information and it's termed as SARS-CoV-2 and has caused a large global outbreak [3].

The first case reported was close contact with animals in seafood market that may transmit from animal to human, then it was transmitted from human to human [2].

The transmission of SARS-CoV-2 is through droplets or direct contact and the possibility of transmission by asymptomatic carrier. Due to the tenacity of the virus, it is possible that a person can acquire COVID-19 by touching a contaminated surface or object, and then touching his or herown mouth, nose, or eyes [3].

In February 11, 2020, the Chinese center of Disease Control and Prevention published 72,314 cases of COVID-19 [4].

Multiple skin manifestations have been described in patients with confirmed or suspected COVID-19 infection. These include a morbilliform rash; urticaria; pernio-like acral lesions; livedo-like vascular lesions; and vesicular varicella-like eruptions. A severe multisystem inflammatory syndrome with mucocutaneous, systemic, laboratory, and imaging findings of atypical severe Kawasaki disease has also been reported in children and adolescents with COVID-19 [5].

Differentional Diagnosis:

1- Perniosis and Pseudo-Chilblains ("COVID toes") clinically presents as erythematous to violaceous papules over acral surfaces (usually the fingers and toes, less commonly the nose and ears) following exposure to cold (fittingly called "acrocyanosis"). Blistering, crusting, and ulceration can occur in severe cases [6].

2- Morbilliform Eruptions and Macular Erythema presented with pink-red macules and papules (morbilliform means "measles"-like) that most often arise on the trunk and then spread to extremities symmetrically [7].

3-Urticaria present as edematous, erythematous papules or plaques often with central pallor [8].

4- Vasculopathies, Livedo presented with livedo refers to a vascular reaction pattern that manifests as "mottling" of the skin, manifesting as a net-like/ reticular discoloration of the skin on the trunk and extremities [9].

5-Vesicular Eruptions present with either diffuse or localize vesicles refer to small fluid-filled skin lesions (< 1 cm). Lesions larger than 1 cm are referred to as bullae [10].

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