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.

Laboratory Investigations

As regards her complete blood count: White blood cell count (WBC) of 3.57 10³/µL (L) (Reference Range: 4–11 10³/µL), with a mild leucopenia, mild relative monocytosis, and moderate absolute lymphopenia. Red blood cell count (RBC) of 3.36 10³/µL (L) (Reference Range: 3.8-5.4 10³/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 106 10³/µL (L) (Reference Range:150-450 10³/µL).

As regards her chemistry:

Her random glucose of 70 mg/dL (N) (Reference Range: 70-140mg/dL), blood urea of 20.60mg/dL (N) (Reference Range: 20-48mg/dL),
creatinine of 1.99 mg/dL (H) (Reference Range: 0.6-1.2 mg/dL),
SGOT (AST) (30 µ/L) (N) (0-42 µ/L), SGPT (ALT) (14 µ/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 Coronaviridae, order Nidovirales,
and can be further subdivided into four main genera (Alpha-, Beta-
, Gamma-, and Delta-coronaviruses). Several Alpha- and
Beta-coronaviruses 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
own 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].

Differential 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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