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# COVID-19: how it can look on the skin. Clinical and pathological features in 20 COVID-19 patients observed in Bologna, north-eastern Italy

*Dear Editor,*

Global public health is currently dealing with the explosive spread of the novel Coronavirus disease 2019 (COVID-19).[1]

This new type of viral pneumonia spread from its first focus in Wuhan (Hubei, China) to across all the world, until a pandemic condition was declared.

Clinically, the most common symptoms of the disease are cough and fever. More than 80% of patients have asymptomatic to moderate disease, but about 15% get severe pneumonia and 5% develop a multi-organ failure.[2]

The diagnosis of COVID 19 is based on a multifactorial approach including clinical symptoms, vital parameters, radiological and laboratory findings The virus isolation, necessary to confirm the diagnosis, is obtained through nasopharyngeal and oropharyngeal swab.

Italy is one of the most involved countries in this pandemia with 207 428 total cases till now.[3]

There are only a few reports concerning the skin manifestations in COVID 19 patients.

Until now, 20 skin manifestations in COVID 19 patients came to the attention of the Dermatology Unit of the city of Bologna, in Emilia Romagna, the third Italian most affected region.

Of the 20 patients observed, 18 of the cases were related to the disease, and two to the devices used for the ventilation assistance, one developing a severe sebopsoriasis of the face and one a facial herpes. Among the 18 cases related to the disease, nine presented exanthematic rashes (Fig. 1a,b), six presented acral vasculitic eruptions (Fig. 1c,d), two a polymorpho-like urticaria (Fig. 1e) and one a varicelliform eruption. The median age of the patients was 51 years; 17 were male, and three were female.

With regards, the cases related to the disease, in two, the signs were present at the onset, while in the other 16, they appeared later. We excluded a iatrogenic origin, as these patients had not assumed any drugs potentially involved in skin reactions over the previous 15 days. Other viral aetiologies were excluded by


**Figure 1** (a,b) Erythematous exanthema of the trunk in two COVID 19 patients. (c,d) Acral ischaemic lesions resembling perniosis on the extremities of a COVID 19 patient. (e) Detail of polymorpho-like urticaria on the left hand. (f) Superficial perivascular dermatitis with lymphocytic infiltrate, dilated vessel in the papillary and mid dermis were observed. Mild spongiosis, lymphocytes along the dermoepidermal junction and vacuolar alteration were present. H&E 2×.

performing serology for the viral infections associated with cutaneous manifestations, for example parvovirus B19 and enterovirus. Most of them reported itching and burning sensation. Only two of them referred pain. They were variably symptomatic for the respiratory tract, but none of them had such a severe lung involvement as to require intubation. One of them was completely asymptomatic, and only the acral vascular manifestation led us the suspicion of coronavirus infection. In six of the patients showing exanthematic rashes, a punch biopsy for histological examination was obtained (Fig. 1F), showing features of perivascular dermatitis and vasculitis, which are compatible with that of a viral exanthem.

It is known that exanthematic rashes can occur during viral infection.[4] We can say that erythematous rashes during coronavirus infections may have the same origin as the other viral rashes.[5] Instead, the vasculitic eruptions could be due to the vascular changes observed in these patients. Degeneration of the endothelium and vascular damages, including both formation of thrombus and congestion in small vessels, were observed in organs other than the lung in autopsies from skin. Indeed, while the 2019-nCoV is mainly distributed in the lung, the damage caused by the infection also involves the vessels, with the possibility of ischaemic and embolic damages.[6]

The clinical patterns of the rashes described in COVID-19 patients till now include urticaria, acral ischaemia, morbilliform, livedo reticularis, vesicular and petechial.[5,7–9] As regards, the histological patterns, perivascular dermatitis and transient acantholytic dermatosis are those described till now.[10].

We are presenting this paper to share our cases of skin involvement during the coronavirus disease. Undoubtedly, no certain association can be established between COVID-19 and skin eruptions, and further studies are needed.

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The patients in this manuscript have given written informed consent to the publication of her case details.

## Conflict of interest

Valeria Gaspari, Iria Neri, Cosimo Misciali and Annalisa Patrizi have nothing to disclose.

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# Sexually transmitted infections during the COVID-19 outbreak: comparison of patients referring to the service of sexually transmitted diseases during the sanitary emergency with those referring during the common practice

*To the Editor,*

Sexually transmitted infections (STIs) and diseases (STDs) affect millions of people every year worldwide.[1] In Italy, data are provided by the Italian National Institute of Health (INIH) and reported to the European Centre for Disease Prevention and Control (ECDC).[2,3] In 1991 and 2009, the Italian sentinel surveillance system was established, consisting in 25 public centres (12 clinical, 13 laboratories) on the national field for diagnosis, treatment and data transmission to the INIH.[4] The STDs service of Dermatology, Bologna belongs to it and is a free-access

 