

Asymptomatic Erythema-like Manifestations in a Home-Managed COVID-19 Case

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ABSTRACT

An asymptomatic erythema-like skin rash is here documented for the first time for a home-managed COVID-19 case, as opposed to skin lesions of different severity being reported for hospitalized patients. In the light of the large proportion of asymptomatic or pauci-symptomatic COVID-19 cases, monitoring such poorly publicized manifestation of the disease may help identifying COVID-19 cases and, therefore, control the disease evolution and spread. Furthermore, as more information on the association of mild disease forms with, also mild, skin lesions is gathered, it will be possible to refine diagnostic tests, which are now focusing on RT-PCR-based SARS-CoV-2 detections in oro-faringeal swabs. The latter may even be less suited than skin samples to diagnose infection on asymptomatic or pauci-symptomatic cases exhibiting skin rashes.

Keywords: COVID-19, SARS-Cov-2, Home Management, Erythematous Skin Lesions

Introduction

The current SARS-CoV-2 pandemics calls for protocols for early identification of suspect SARS-CoV-2 disease (COVID-19) cases, for cure, and monitoring of the infection evolution, beside effective prevention strategies. RT-PCR-based tests on naso- and oro-pharyngeal specimens remain the accepted diagnostic method, but they are often done on a small fraction of cases, even in the presence of the most common symptoms, namely fever, muscle pain, weakness, respiratory difficulties, cough, and diarrhea.

A large number of asymptomatic or pauci-symptomatic COVID-19 cases are going undetected contributing to the spread of the infection, and an increasing fraction of suspect or confirmed cases are being (and will be) managed at the patient's domicile by untrained caregivers with discontinuous and remote supervision from the general physician. Therefore, it will be essential to both enrich the list of possible symptoms of the disease, and to develop specific guidelines and protocols for the supervising physician, the patient and/or the caregiver for correct COVID-19 management, as well as early for detection of symptoms that may require professional intervention and even hospitalization.

Anecdotal (https://www.reddit.com/r/CoronavirusUS/comments/fe0fw7/its_not_widely_known_a_rash_is_a_symptom_of/) and more rigorous recent reports, but on hospitalized patients 1-4, indicate skin alterations as poorly recognized COVID-19 symptoms.

To contribute to clarify symptoms and manifestations of home-managed COVID-19, which indeed represent the largest fraction of COVID-19 cases, evidence of the erythematous-type skin rash manifested by one case is here provided. Such skin lesions appear less severe than those reported in (Recalcati, 2020; Galván Casas *et al.*, 2020; Joob and Wiwanitkit, 2020; Marzano *et al.*, 2020) most likely because of the mild disease manifestation, not requiring hospitalization, and may even go undetected (or unreported to the supervising physician) being asymptomatic.

Methods

Temperature was measured with a Gallium –based thermometer, blood pressure with a Omron M6 Comfort device and oxygen saturation values with a Beurer medical PO40 pulse oxymeter from Day 1 through Day 40 with measurements taken every 3-4 hours up to Day 14, and every 8-12 hours up to Day 40 for consistency 20 when they were discontinued or measured occasionally. A record of such parameters as well as administers drugs has been recorded. Photos were taken with a Samsung Galaxy S3 phone initially wrapped in plastic film to avoid contamination (Day 20).

Results and Discussion

The individual is a 87-years old woman with no chronic diseases and no assumption of novel medications in the previous months. Although asymptomatic, she tested positive to the RT-PCR-based SARS-CoV-2 assay (Day 0), and was home-managed under the supervision of the general physician. Care was taken to isolate the person in an apartment section and to implement measures to avoid contagion of the caregiver. On Day 3 she developed fever, which was kept under 38-38.5 °C by administering paracetamol (Day 3-7: 1 g around midnight when temperature typically peaked followed by 500 mg every 8 hours) and later below 37 °C (Day 8-10, 500 mg paracetamol every 8 hours; Day 11-12, 500 mg every 12 hours). At Days 31 and 35, SARS-CoV-2 RT-PCR-based tests were done on naso/oropharyngeal swabs, as per protocols adopted by the Lombardy health system, yielding negative results.

Small (<5 cm diameter) erythema-like signs on the back were detected starting Day 10, but they were disregarded as believe to be due to friction caused by clothings because of the lack of information on skin lesions associated with COVID-19. On Day 20, i.e. 7 days after temperature returned to values <37 °C in the absence of antipyretics, the extended skin rash reported in Fig. 1A was detected and treated with over-the-counter 0.1 % hydrocortisone-based preparation (Day 20) and, later, 5% panthenol (one

application per day) to avoid cortisone during SARS-CoV-2 infection. The rash was not associated with itching, bleeding, blisters or other skin lesions, and gradually regressed to the state reported in Fig. 1B and Fig. 1C at Days 23 and 38, respectively.

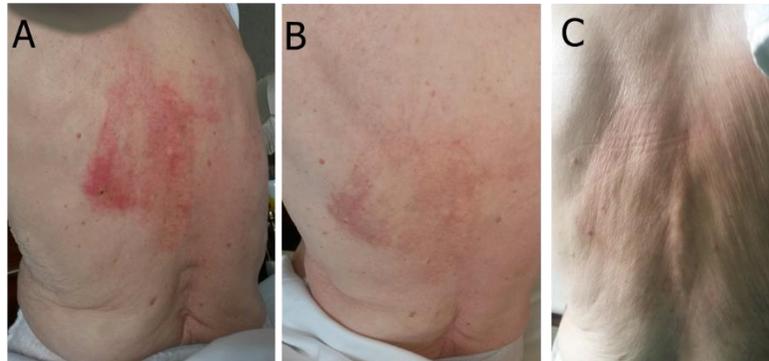


Figure 1: Erythema-like skin rash at Day 20 (A), 23 (B), and 38 (C). Note that disappearance of COVID-19 symptoms (fever) was observed on Day 13. The RT-PCR tests on naso/orofaringeal samples drawn at Days 31 and 35 indicated the absence of SARS-CoV-2 virus.

Discussion

Skin lesions of different severity are emerging as manifestations of COVID-19, but are not commonly listed among its symptoms so that detection of asymptomatic or paucisymptomatic may fail, with consequences on the spread of the infection. The case described here is the first report of a home-managed case of COVID-19, in which a record of the disease evolution and the skin rash has been kept. The onset of the extended, but asymptomatic, erythema-like skin rash followed the acute (although manageable) phase of the disease, and it gradually regressed. However, a systematic study involving a collaboration between general physicians and the patient and/or caregivers in order to associate the time of onset of the skin rash and the disease stage is very much needed to clarify the diagnostic value of such COVID-19 manifestation, especially in the increasingly frequent (mild) home-managed COVID-19 forms. Furthermore, the study of the association of skin lesions and viral load, and suitable tests to detect SARS-CoV-2 presence and precise localization in the skin tissue are key issues that should be addressed in specific studies in both hospitalized and non-hospitalized patients, as done for other pathogenic viruses (Ding *et al.*, 2004).

Conclusions

Skin lesions are emerging as frequent COVID-19 manifestations, but are rarely known by the general public leading to miss infectious individuals showing moderate or no symptoms and mild skin lesions as in the case reported here. Furthermore, it can be foreseen that the majority of COVID-19 cases

will be managed at the patient's domicile making it crucial to provide guidelines to untrained caregivers to handle and monitor the disease evolution. With the current limited knowledge of COVID-19, it cannot even be ruled out that naso/orofaringeal samples may not be suited to determine COVID-19 negativity in the presence of skin lesions, with consequences on the diagnosis and control of the disease.

In general, an issue that will be worth addressing, when sufficient data are available, is the embryonal origin of tissues more frequently affected by COVID-19 (Plein *et al.*, 2018; Iruela-Arispe, 2018), which may explain the variety of manifestations of the disease.

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The patient in this manuscript has given informed consent to publication of their case details.

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