

# Trends in dermatological practice in work with patients with skin diseases during the COVID-19 pandemic: our experience and observations

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## Abstract

The COVID-19 pandemic has changed many areas of life, including habits and trends in dermatological practice and dermatology patients' lifestyles. This article presents cases of patients infected with COVID-19, patients that developed lesions due to pandemic-related public health measures affecting the skin, and those that developed skin lesions after COVID-19 vaccination. One case concerned a female patient with widespread urticaria that had repeatedly gone to emergency rooms and had been administered corticosteroids and antihistamines for an undiagnosed COVID-19 infection that had been triggering her urticaria outbreaks. Another patient complained of urticaria outbreaks and was examined and treated multiple times at emergency rooms until a dermatological follow-up determined he was suffering from dysmorphophobia. Among those with lesions due to frequent hygiene during the pandemic, we examined a female with contact dermatitis triggered by repeated and prolonged contact with hand disinfectant. Another patient presented with a phototoxic reaction on the neck after using hand disinfectant. In addition, we saw widespread lesions on a patient that reported recently being vaccinated against COVID-19. Finally, in an effort to prevent COVID-19 transmission, we believe that a first-time onset of non-specific exanthema indicates COVID-19 testing because it may be an early indicator of viral infection.

**Keywords:** COVID-19, urticaria, dysmorphophobia, exanthema, contact dermatitis, epidermal barriers, skin care

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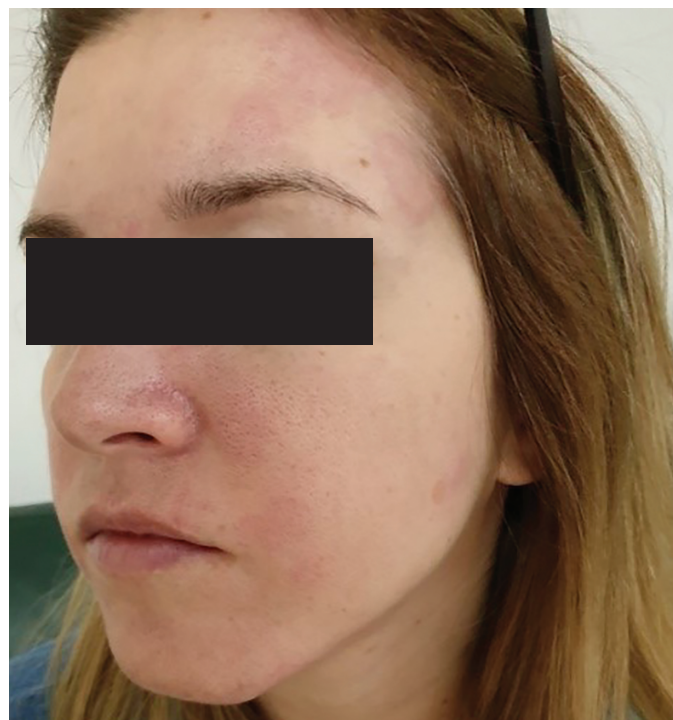
## Introduction

The COVID-19 pandemic has changed many things, including habits and trends in dermatological practice and dermatology patients' lifestyles, including a marked reduction in face-to-face consultations in favor of other communication types (e.g., teledermatology, and consultations by mail or phone) (1–3). Due to the need for social distancing and quarantining, the number of dermatology visits has decreased at both public hospitals and private practices. In Italy, for example, there were approximately 80 to 90% fewer in-person consultations (1, 4, 5). Some of our patients also forwent visits, the consequence being that their manifestations became severe. Also during this time, some therapy dilemmas have emerged over the limitations of systemic immunosuppressive therapies for patients with chronic skin diseases (e.g., psoriasis, atopic dermatitis, and hidradenitis) along with other new trends: rationing of resources, involvement of dermatologists in COVID-19 patient care and assistance, and other issues (4). Thus, we decided to record our observations of these trends in our practice.

## Case presentations and discussion

First, we discuss trends concerning patients infected with COVID-19. In one case, a new female patient presented with urticarial eruption and widespread hives on her skin, including the face, with no other symptoms. She went to urgent care clinics a few times until she was finally diagnosed with COVID-19, still in the early stages (Fig. 1). She had repeatedly been given corticosteroids and antihistamines, but her urticaria did not resolve until the viral infection had also been addressed. This case thus points to a pos-

sible association between urticaria and unrecognized COVID-19 infection. According to one Italian study of skin lesions in patients hospitalized for COVID-19 infection, 20.4% of patients had skin lesions, including widespread urticaria, erythematous rash, and chickenpox-like vesicles (6). Lesions predominantly appeared on



**Figure 1** | A female patient with widespread urticaria that occurred during the early stages of COVID-19 infection, when the infection was still unrecognized.

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the trunk and generally were not associated with itching or with very little itching. They usually healed within a few days, without any correlation between the presence of the lesions and infection severity (6). Urticaria is one of the most common manifestations of COVID-19; it corresponds to the fact that infections are a possible trigger and an associated factor (7, 8). According to other literature data on skin manifestations recorded in patients infected with COVID-19, during the early stage of infection, a transient varicelliform exanthema was the most common observation (4, 6, 9–11). According to literature data, cutaneous manifestations of COVID-19 mostly include maculopapular exanthem (morbilliform; 36.1%), papulovesicular rash (34.7%), urticaria (9.7%), painful acral red purple papules (15.3%), livedo reticularis lesions (2.8%), and petechiae (1.4%) (11). Skin lesions mostly appeared on the trunk (66.7%) and the hands and feet (19.4%) (11).

Apart from the case of urticaria associated with COVID-19 mentioned above, we examined a second new female patient that had also made many visits to emergency rooms, reporting recurrent hives and urticaria (Fig. 2a). According to her medical history, she had suffered from hives in the past, but this time she only seemed to be imagining them as a result of psychological changes due to the pandemic. Thus, we suspected dysmorphophobia brought on by the psychological influence of the pandemic, as was finally confirmed by a psychiatrist. This case shows that patients do experience real pandemic-related psychological issues and indicates a need for a multidisciplinary approach to care in such cases.

In our experience with non-COVID-19 dermatology patients, hand contact dermatitis generally predominated (primarily irritant hand dermatitis), mainly due to frequent hand washing and disinfection. One notable example is the case of a female patient with contact dermatitis that appeared after very frequent hand disinfection while quarantining at home (Fig. 2b). This example highlights how both patients and dermatologists are more susceptible to skin damage due to increased protective procedures (e.g., frequent hand washing or alcohol-based hand sanitizer use) and consequent acute/chronic irritant dermatitis, more commonly seen in those with previous lesions and an atopic predisposition (4, 12–14). Recommendations for preventing these adverse effects have been published: avoiding harsh soaps and using moisturizer on damp skin, among others (4). Aside from hand contact dermatitis, also among our non-COVID cases during the pandemic was a patient that experienced a phototoxic reaction on the neck. The reaction occurred as a result of sun exposure, in which her hands and neck had been in prolonged contact with each other after she

applied a disinfectant to her hands (Fig. 2c).

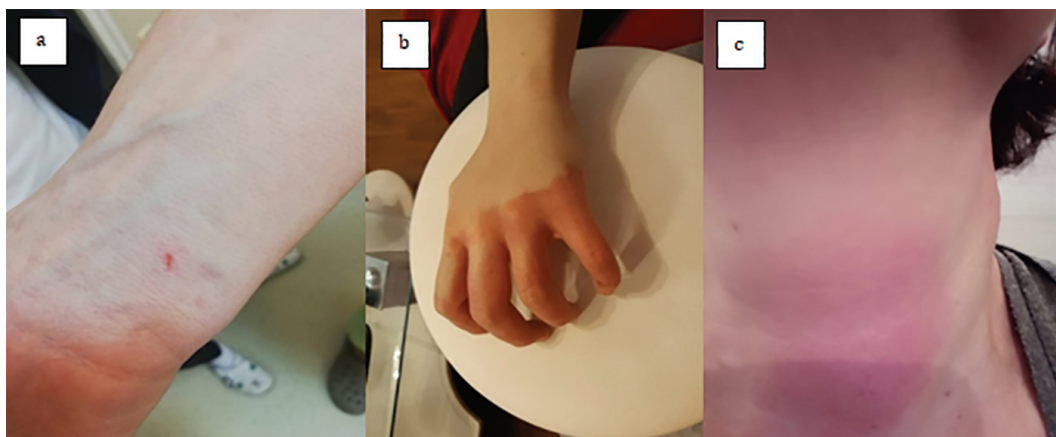
Some patients have also reported an association between deterioration of their skin disease or a new skin eruption with their recent vaccination for COVID-19 (Fig. 3). In practice, it is difficult to obtain a confirmation for this situation during the pandemic, predominantly due to the reduction of medical healthcare activities and tests. In addition, unfortunately, there are few specific epidemiological data on side effects of vaccines for COVID-19 on patients and their skin. In addition, for patients with chronic inflammatory diseases that use immunosuppressive therapy, data on the efficacy or safety of vaccines against COVID-19 are not available because these patients are excluded from clinical trials (15).

## Conclusions

New pandemic-related conditions have demanded new preventive measures along with dermatology patient education. As experience has shown, a lack of proper treatment protocols and monitoring may contribute to patient self-medication and poor compliance. Finally, we note that the new onset of non-specific exanthema in a patient demands testing for COVID-19 because it may be an early indicator of viral infection, and early COVID-19 detection particularly prevents further transmission. We hope these observations from our experience will help other dermatologists and other physicians in their practices.



**Figure 3** | Skin lesions on a patient that reported recently being vaccinated against COVID-19.



**Figure 2** | a) A patient that complained of an urticaria outbreak, but final diagnosis was dysmorphophobia. b) Contact dermatitis in a female patient after repeated and prolonged skin contact with a disinfectant during self-isolation during the COVID-19 pandemic. c) A phototoxic reaction to a disinfectant.

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