

## Periocular capillaritis in a COVID-19-positive patient: report of a case

To The Editor,

COVID-19 is a highly contagious disease characterized by a wide range of symptoms, ranging from common cold up to respiratory failure.<sup>1</sup> Despite having predominant airway involvement, COVID-19 cannot be considered merely as a respiratory disease. Several studies already demonstrated significant cutaneous involvement due to SARS-CoV2 infection. In fact, nearly 20% of affected patients display cutaneous signs both accompanying and following the infection.<sup>2</sup> Notwithstanding, most of the available literature is represented by case reports, case series and observational perspective studies, and new emerging data are still coming out in this setting.

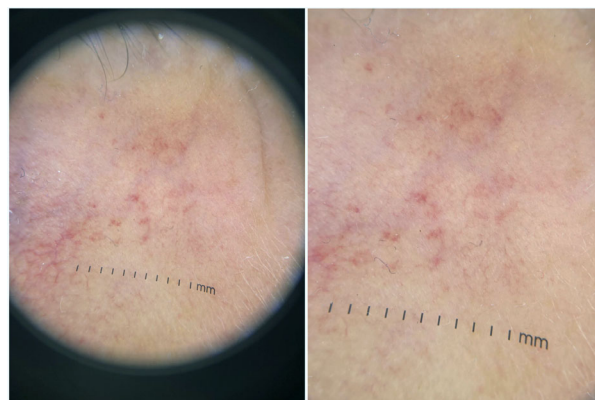
Recently, Freeman *et al.*<sup>3</sup> described cutaneous manifestations in 716 affected patients from 31 countries. Another review from Daneshgaran *et al.*<sup>4</sup> identified 996 positive patients with COVID-19-associated skin findings. In total, six main different groups of COVID-19-related cutaneous manifestations have been described so far: maculopapular rashes, acral chilblain-like lesions, urticarial eruptions, vesicular rashes, erythema multiforme-like eruptions and vascular skin lesions, including purpura, livedo and ischaemic or necrotic ulcers.<sup>5,6</sup>

Purpuric lesions are mostly reported in the context of disseminated intravascular coagulation and are generally histologically characterized by complement-mediated microvascular injury.<sup>7</sup> Similarly, petechial rashes were described in patients with immune thrombocytopenia associated with COVID-19 infection.<sup>8</sup> A 'dengue-like' petechial rash has also been recently described.<sup>9</sup> In all the above-mentioned scenarios, vascular skin lesions were characterized by widespread cutaneous involvement and associated with severe systemic and respiratory disease, therefore representing poor prognostic factors.

We report the case of a 34-year-old woman who developed cough and cold 18 days after receiving the first dose of COVID-19 vaccine (Pfizer, New York, NY, USA; BioNTech, Magonza, Germany). The patient tested positive for SARS-CoV2. The patient referred for the appearance of a periocular rash within the first 24 h from the onset of symptoms. The eruption was completely asymptomatic, and no other cutaneous accompanying signs were present. Submillimetric petechial lesions could be appreciated both clinically and dermoscopically (see Figs 1 and 2). Skin findings were consistent with cutaneous capillaritis and were limited to the periorbital area. We defined this pattern as 'red panda-like'. The patient never developed signs of pneumonia, nor fever or anosmia. She only took vitamin C and D supplements and locally applied facial moisturizers. Both respiratory and cutaneous manifestations of COVID-19 completely regressed within few days,



**Figure 1** Clinical pictures taken after 24 h from the onset of respiratory symptoms, demonstrating symmetrical periocular capillaritis, defined as 'red panda dermatitis'.



**Figure 2** Dermoscopic images revealing fine telangiectasias and submillimetric petechial lesions of the lower eyelid, not blanchable at vitropression.

without any further specific treatment. Of note, the patient did not infect any of the other family members, despite having two little children and therefore being unable to self-isolate properly.

The detection of vascular lesions in a patient affected by COVID-19 with only mild symptoms is very peculiar. Limited extension of capillaritis, affecting only the periocular area, probably reflects the minimal respiratory involvement and the absence of systemic symptoms. It is impossible to draw any conclusion about a possible association between periocular dermatitis and reduced contagiousness until similar cases are further collected. We can hypothesize that symptoms could have been attenuated because of previous vaccination. Moreover, vaccination may have played a role in limiting both contagiousness and vascular and/or systemic involvement. Complete resolution of

the eyelid dermatitis in parallel with respiratory improvement strongly suggests an association between skin manifestations and COVID-19. However, vitamin supplements (especially vitamin C) can also bring partial benefit in the setting of capillaritis and small-vessel dysfunction.<sup>10</sup>

The present report gives a new insight into COVID-19-associated cutaneous findings and can therefore help clinicians in identifying early signs of the disease. In fact, the great variability of COVID-19-related dermatological disorders gives reason of the difficulties encountered by dermatologists and other physicians in recognizing SARS-CoV2 infection and therefore in treating patients accordingly.

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### Conflict of interest

None declared.

### Informed consent

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

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## COVID-19 pandemic and autoimmune bullous diseases: a cross-sectional study of the International Pemphigus and Pemphigoid Foundation

### Editor

Autoimmune bullous diseases (AIBDs) are rare and potentially life-threatening chronic inflammatory disorders that are difficult to manage during the COVID-19 outbreak.<sup>1,2</sup> Our objective was to investigate the associations of outdoor activity restriction, income loss and treatment non-adherence with self-reported outcomes and to determine the satisfaction level with teledermatology platforms in patients with AIBDs during the COVID-19 pandemic.

In this cross-sectional study, English-speaking AIBD patients aged >18 years, who were recruited from the database of the International Pemphigus and Pemphigoid Foundation, were asked to complete a COVID-19 pandemic-related Web-based survey between 30 July 2020 and 1 October 2020. The online poll and its rating system were adapted with minor modifications from Kuang *et al.*,<sup>3</sup> Wang *et al.*<sup>4</sup> and Ruggiero *et al.*<sup>5</sup> Electronic informed consent was obtained from all patients, and the questionnaire was completed anonymously. The study was granted exemption by the Institutional Review Board of the University of Southern California. The primary outcome was deterioration of the disease, determined by the Global Rating of Change. The secondary outcomes included perceived stress and symptoms of anxiety and depression, which were assessed by the visual analogue scale, 2-item Generalized Anxiety Disorder and 2-item Patient Health Questionnaire, respectively. The cut-off points were  $\geq 7$ ,  $\geq 3$  and  $\geq 3$ , respectively, according to previous studies.<sup>3,4,6–8</sup> The tertiary outcome was the satisfaction level of patients using telemedicine platforms (i.e. live interactive video-call visits). Logistic regression was used to estimate associations with adjustments for potential confounders. The effect size is presented as odds ratio, likelihood ratio and 95% confidence interval. *P* values < 0.05 were considered statistically significant.

Valid questionnaires including location data were collected from a total of 383 patients [276 females and 107 males; aged 19–95 (mean 59.9) years; 207 pemphigus vulgaris, 75 mucous