

LETTER TO THE EDITOR

## Seborrheic dermatitis and anti-COVID-19 masks

Dear Editor

In Milan, Italy, after the end of the lockdown period (March and April 2020), we observed several patients with seborrheic dermatitis (SD) who showed a more or less important worsening of their disease. In a group of 43 patients with SD who had been visited from December 2019 to February 2020, a worsening in 20 of them (46.5%) was seen. They were 15 males (75%) and 5 females (25%), with an age ranging from 23 to 48 years (mean age: 36.7 years). All patients used anti-coronavirus-19 (COVID-19) face mask for 6–10 hours per day; 7 out of 20 patients (35%) were physicians, obstetricians, or nurses. According to the clinical point of view, the worsening was characterized by increased erythema and desquamation (Figures 1 and 2). Fourteen out of 20 patients (70%) stated that also itching worsened.

In the last few weeks, some articles have been published on cases of dermatitis of the face associated with the use of anti-COVID-19 masks.<sup>1–5</sup> In a Chinese study, it was observed that 49% of subjects reported skin reactions on the face related to mask. Itch (14.9% of patients), erythema (12.6%), and dryness (11.6%) were the most frequent manifestations. Furthermore, 43.6% of patients with acne, 100% of patients with rosacea, and 37.5% of patients with SD reported exacerbation of their diseases.<sup>1</sup> A Polish study demonstrated that itching associated with the use of face mask was present in 19.6% of subjects. In particular, subjects with atopic dermatitis, SD, and acne were at significantly higher risk of itching development. Furthermore, subjects who wore masks for many hours per day reported itching more frequently.<sup>2</sup> A case of occupational allergic contact dermatitis caused by formaldehyde and 2-bromo-2-nitropropane-1,3-diol (bronopol) contained in a polypropylene surgical mask was published.<sup>3</sup> In another Chinese study, it was observed a



**FIGURE 2** Worsening of SD associated with long-time mask wearing

significant increased flare of acne in individuals with long-time mask wearing (>4 hours per day over 2 months). The authors hypothesized that this condition is due to high temperature of the face covered by the mask that induces an increased sebum excretion rate: The latter increases by 10% for each 1°C rise.<sup>4</sup>

In our patients with SD, it is possible that high temperature of the face induces abnormalities of microbiota (proliferation of *Malassezia* spp.) and permeability of skin barrier and increases sweating with irritant action and worsening of itching.



**FIGURE 1** Worsening of SD associated with long-time mask wearing

### CONFLICT OF INTEREST

The authors declare there are no conflicts of interest—financial or otherwise—related to the material presented herein.

### INFORMED CONSENT

Informed consent and permission for publication of medical images were taken from the patient.

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