



Editorial

## Role of dermatologists in the uprising of the novel corona virus (COVID-19): Perspectives and opportunities

The outbreak of coronavirus disease 2019 (COVID-19) from Wuhan, China, since the end of the year 2019, has infected more than 70,000 people and claimed several thousands of lives ever since worldwide. Although the disease is mainly limited to China to date, there are increased numbers of confirmed patients and increased public concerns of community spreading recently in several countries. Although the virus seldom causes viral exanthem, as professional and consulting dermatologists, we remain actively engaged in the healthcare and in the academic interests for COVID-19.

These patients with COVID-19 could receive several treatments, including systemic antibiotics and antiviral medications, such as remdesivir, ritonavir, interferons, and also immunomodulators such as mycophenolic acid, chloroquine, and cyclosporine. Many of these drugs are known to induce generalized skin eruptions, making the differential diagnosis of generalized skin eruptions essential in the appropriate and timely management of these COVID-19 patients, in particular, under febrile and critical conditions. Severe drug eruptions, such as DRESS<sup>[1]</sup> featured with elevated liver function, could further complicate the treatment choices in these patients with COVID-19. In fact, we should keep in mind that febrile and general skin eruptions could result from a variety of viral infections, including measles, rubella, dengue fever,<sup>[2]</sup> Zika virus, parvovirus, coxsackie virus,<sup>[3]</sup> and enterovirus, when acting as consulting dermatologists. Dermatologists should be able to promptly recognize the general skin eruptions either by viral infections or by drugs. Moreover, the rapid and accurate diagnosis relies on the integration of healthcare information into structured electronic medical records, including real-time output and friendly display of laboratory data, vital signs, and prescription information. The current hospital information system should be able to incorporate different lines of information with artificial intelligence to catch up with the disease management in the rapid evolving scenario.

In the critical condition when the patients are isolated in the intensive care unit, it is reasonable to apply telemedicine<sup>[4]</sup> into the medical practice. Incorporation of telemedicine not only allows real-time management of skin diseases for the patients but also prevents the potential physician exposure

to the virus with conventional face-to-face consultation. The teledermatology is a must in the future healthcare system to deal with the massive outbreak of contagious diseases.

Because of long-term wearing of the universal protection gears by the medical and paramedical personnel during healthcare services, there are increasing numbers of the related and occupational skin diseases in those people. For example, the occupational skin diseases for healthcare workers in treating COVID-19 patients may include the pressure marks, eczema, and acne by the prolonged mask-wearing, miliaria rubra and miliaria pustulosa by the coveralls, along with sweating and painful hand eczema by frequent hand washing. Pre-existing skin diseases could be also accentuated in the medical personnel in a stress condition<sup>[5]</sup> when providing health services to the COVID-19 patient. Dermatologists should familiarize themselves in treating and preventing these diseases.

The research for the dermatological society in terms of COVID-19 may include the potential entry niche of COVID-19 into the integumentary system, how and what condition the disinfectants could kill the virus in the environments, and how the virus propagates in the skin and other organs, as well as how to evade the defense of host immune system.

In the uprising era of COVID-19, dermatologists not only should contribute their knowledge and professional skills in healthcare but also embraces the opportunities to study the pathogenesis and apply it into healthcare. The continuous development of the optimized telemedicine and artificial intelligence in hospital information system provides a good clinical and academic platform for dermatologists to devote themselves to help the academic, regional, and global society to combat the novel virus.

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