

# Chloronychia in Healthcare Workers in COVID-19 Times

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Dear Editor,

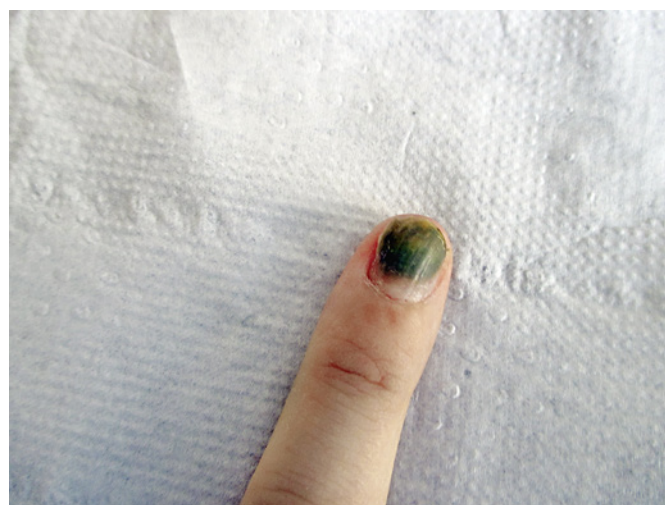
A recent study published that 80% of 61 patients hospitalized in the intensive care unit for COVID-19 acute respiratory infection had bronchial aspirates positive for *Pseudomonas aeruginosa* [1]. On the other hand, no *P. aeruginosa* infection has been reported affecting the skin of patients or of healthcare providers.

It is well known today that variable skin disorders are induced by protective equipment such as facemasks and gloves. Prolonged use of gloves can cause hyperhidrosis, moisture, and humid areas, which can favor colonization of *P. aeruginosa*. *P. aeruginosa* is named “the water bug” because it does survive only in humid environments.

*P. aeruginosa* is a Gram-negative aerobic coccobacillus, which is not part of the normal skin flora and, in immunocompetent individuals, does not cause any skin infection. In immunosuppressed patients, *P. aeruginosa* can be the pathogen causing pneumonia, osteomyelitis, and even sepsis [2].

*P. aeruginosa* nail infection is quite characteristic due to blue-green discoloration of the nail plate caused by two pigments: pyocyanin and pyoverdine (Fig. 1).

Chloronychia observed in healthcare workers can be explained by the humid environment and possible associated nail lesions, but could it be a risk factor for immuno-



Color version available online

**Fig. 1.** Blue-green discoloration of the nail plate (the nail has become onycholytic, according to the patient’s history, only after the color change had been noted).

suppressed patients? *P. aeruginosa* can easily spread due to scratching and cause soft tissue infections such as ecthyma gangrenosum or necrotizing gangrene in immunocompromized individuals.

*P. aeruginosa* nail infection could be an occupational skin disease among healthcare providers, but it may also be a concern by spreading the infection to others, especially to hospitalized patients in COVID-19 units.

### Conflict of Interest Statement

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### Author Contributions

All authors equally contributed to this work.

### References

- 1 Chen J, Zheng YX, Kong DC, Wu HY, Yuan ZA, Wu F. [Practice and thinking of acute respiratory infection surveillance for the response of emerging respiratory diseases in Shanghai]. [Zhonghua Liu Xing Bing Xue Za Zhi](#). 2020 Jun;41(0):E073.
- 2 Schwartz RA, Reynoso-Vasquez N, Kapila R. Chloronychia: The Goldman-Fox Syndrome - Implications for Patients and Healthcare Workers. [Indian J Dermatol](#). 2020 Jan-Feb; 65(1):1-4.