

COVID-19: The Importance of Adequate Personal Protective Equipment in Healthcare Medical Staff

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Keywords

COVID-19; Angiotensinogen; Angiotensin II; Angiotensin Converting enzyme.

Short Communication

We present an update on infection prevention and control for COVID-19 in healthcare settings. This update focuses on measures to be applied in settings with increasing community transmission, a growing demand for concern about COVID-19 patients, and subsequent staffing issues in the event of shortages of personal protective equipment for healthcare facilities worldwide [1,2]. The comfort and emotional resilience of health care workers are key components in maintaining essential health care services during the COVID-19 virus (coronavirus) outbreak. It will therefore be important to anticipate the stresses associated with this work and to trigger support for health care workers. Monitoring and assessing the mental health and well-being of health care workers will be important, along with efforts to ensure their successful reunion with colleagues if they become infected. Healthcare workers will become accustomed to participating in frequent formal and informal training. Additional organizational efforts during the COVID-19 outbreak should be ongoing and can provide a measure of stress reduction. Health care workers need training in specific details about COVID-19 virus transmission; when and how to shield patients and, potentially, family members; the use of personal protective equipment; when calling for quarantine and isolation; and moral decision-making about triage and surge problems. What we know, COVID-19 docks to angiotensin-2-receptors of different tissues, suggesting individual tissue damage. COVID-19 seems to get part of the human body by docking to ACE-2 receptors in the oral cavity, tongue and of upmost importance, the skin [4]. Studies have shown that ACE-2 and ACE-2 receptors were found in the skin, especially in the epidermis and the dermal

vascular layers, suggesting that COVID-19 could find an entry into the human body by epidermal contact, then docking to ACE2 in the skin [3,5]. Both studies of Stecklings et al. examined the expression of Angiotensin receptors in the human skin, the possible synthesis of Angiotensin II at this point and looked for the first insight into the physiological functions. AT1 and AT2 receptors were found in the epidermis and in the dermal vascular walls [3,5]. The same expression pattern was found for angiotensinogen, renin and Angiotensin Converting enzyme (ACE). All components could be proved, in addition, at mRNA level in cultured primary ceratinocysts, melanocysts, with the exception of the AT2 receptors in melanocytes [3,5]. If this hypothesis is correct, all medical staff must work with skin protective gear and all humans should take care that closer skin contact could transmit COVID-19. Therefore, wearing face shields, mouth masks (FFP2/3) and medical gloves are of upmost importance [6]. Many health care workers worldwide, medical doctors and nurses lost their lives and their family. Close contact to COVID-19 patients in patient care seem to increase the risk of infection. They want to help by live in fear to get infected by these patients. COVID-19 is fatal in patients who develop high viral load, ARDS, bilateral pneumonia and sometimes devastating medical course with cytokine storm and fall of cd-4/8 t-cells. Patients die alone without relatives. Medical staff becomes the only relative for these patients in the fight against virus and death, and sometimes pay themselves with their own life. You are the biggest heroes.

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