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Published in:
European clinical respiratory journal

DOI:
10.1080/20018525.2020.1766817

Publication date:
2020

European Clinical Respiratory Journal

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/zecr20

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To cite this article: Zuzana Diamant , Leif Bjermer & Vibeke Backer (2020) Clinical and daily respiratory care and clinical trials within the COVID-19 era, European Clinical Respiratory Journal, 7:1, 1766817, DOI: 10.1080/20018525.2020.1766817

To link to this article: https://doi.org/10.1080/20018525.2020.1766817

Published online: 25 May 2020.

EUROPEAN CLINICAL RESPIRATORY JOURNAL
2020, VOL. 7, 1766817
https://doi.org/10.1080/20018525.2020.1766817

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EDITORIAL

Clinical and daily respiratory care and clinical trials within the COVID-19 era

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Since December 2019, the SARS-CoV-2 infection has flooded the entire world and consequently, redirected our focus towards treatment of the acute sequelae of COVID-19 disease, the adjusted organization of the outpatient care, the prevention of further spreading, and the (re)search for effective treatment options. Currently, both the community and the health care providers (HCPs) are facing a growing list of attention points on a daily basis. In support of the HCPs, the Danish Society for Respiratory Medicine has published a Guideline for management of COVID-19 disease during hospital admission in a non-intensive care setting in this journal (Weinreich ECRJ2020).

Although the vast majority of COVID-19-related symptoms and signs are usually mild to moderate and eventually self-limiting, susceptible individuals may develop pneumonia, sometimes accompanied by pulmonary embolism, resulting in respiratory failure often accompanied with multi-organ involvement. Among patients who end up at the ICU, the mortality rate is high [1]. While individuals with chronic respiratory diseases such as allergy, asthma and COPD are generally at risk of virally induced (severe) exacerbations [2], interestingly, these populations seemed underrepresented among those with severe-COVID-19 disease in the initial reports from China [3,4]. However, more recent reports from the USA COVID-NET hospitals show chronic lung disease as an underlying condition in approximately 30% of hospitalized patients with COVID-19 [5], while especially those with COPD appeared at risk [6]. Additionally, immunocompromised patients, including the elderly (i.e., over 65 years old), patients with diabetes mellitus or those on (systemic) corticosteroids in conjunction with underlying immune disorders, may be at increased risk of being infected and more severely affected by SARS-CoV-2 [3,7].

These initial observations raised many questions regarding the use of immunosuppressants such as corticosteroid-containing controllers. However, optimal disease control is the cornerstone of defense against respiratory triggers, including infections and allergens, in patients with chronic airway disease including allergic rhinosinusitis and (allergic) asthma. Given the fact that there is currently no evidence that topical corticosteroids negatively affect the COVID-19 outcome and in line with other professional societies within the respiratory and allergy field, e.g. AAAAI, ERS, GINA, NAEPP and NICE, NORA underscores the importance of adequate disease control – especially since spring pollen season has started in Northern Hemisphere. Apart from the general avoidance and hygiene measures issued by health authorities, respiratory societies recommend that patients continue taking their controller medications including corticosteroid-containing controllers and biologicals, according to their personal treatment plan and to seek medical help if disease control deteriorates [8–10]. These recommendations are in place for both adults and children with chronic inflammatory airway disease even if infected by SARS-CoV-2 or suspected of having the infection. In line with the general recommendations, interactions with HPCs should take place remotely, whenever possible.

While the standard care consists of supportive treatment, there is no approved (effective) treatment for COVID-19 disease and all currently applied treatment options – including chloroquine – are off-label, yielding varying efficacy. New treatment strategies presently ongoing are targeting virus replication (e.g., remdesivir, favipiravir) [11] or the virus entering the cell (e.g., the TMPRSS2 inhibitor, camostat mesylate) [12] or the COVID-19-released sequelae including the pro-inflammatory pathways (e.g. anti-TNF-alpha, anti-

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IL6) [11] or the excessive pulmonary vascular leakage (e.g. Icatibant, a bradykinin antagonist or enoximone, a PDE3-inhibitor) [13,14].

Apart from COVID-19-directed research, the pandemic has affected many ongoing non-COVID-19-related clinical trials as most of them have been set on hold. Clinical trials on COVID-19 should be prioritized and quickly implemented following local regulatory policies, however, it is also critical that other ongoing clinical research, such as on new treatment modalities or clinical assessments can safely continue whenever possible. However, restrictive measures issued by health authorities which resulted in the close-down of clinical units, public transportation, etc., hamper the implementation of certain protocol-related procedures including scheduled visits. Nevertheless, with proper adjustments, some studies can be continued without loss of safety or data integrity. Regulators, including FDA and EMA, recently issued recommendations how to safely handle specific aspects of clinical research [15]. Whenever possible, validated mobile-apps or other tools as well as telemedicine can be implemented to replace onsite visits after coordination with IRB/EC, sponsor, pharmacy, research staff and participants, while all protocol deviations should be properly documented. In case participants need to come onsite, proper measures and precautions should be taken as issued by local regulators and health authorities including staff wearing personal protective equipment (PPE), the use of appropriate disinfectants and proper handling of any biological samples.

With respect to lung function measurements, bronchoprovocation testing and airway sampling procedures, aerosols may develop on exhalation, therefore, most guidelines recommend to postpone these tests if not strictly necessary. However, in case of need, lung function measurements can be performed safely provided that adequate precautions are made [16].

Disclosure statement

No potential conflict of interest was reported by the authors.

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