Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Pulmonol. 2020;xxx(xx):xxx–xxx

PULMONOLOGY

www.journalpulmonology.org

EDITORIAL

Prioritizing care for severe asthma during SARS-CoV-2 pandemic

The new coronavirus (SARS-CoV-2)[1] is characterized by high contagiousness: this has forced to implement existing strategies or to conceive new approaches toward the management of chronic diseases in order to limit the spread of the virus among healthcare workers, patients and their caregivers. In this context, individuals affected by severe asthma have represented a challenge for the health care system during the lockdown phase of the SARS-CoV-2 pandemic. First, it is commonly accepted that these patients could be at greater risk for more severe disease if infected with SARS-CoV-2; therefore, as strongly encouraged by the Global Initiative for Asthma document that has issued frequently asked questions (https://ginasthma.org/about-us/faqs/) about asthma management in the context of COVID-19, all measures should be applied to limit the risk of infection. Second, an individual suffering from the most severe forms of asthma who experiences acute exacerbation may, to some extent, mimic the onset of COVID-19 disease. Indeed, early observations indicate that the clinical spectrum of COVID-19 disease can be very heterogeneous, perhaps related to the infectious dose and the viral load of SARS-CoV-2 within the first weeks of disease onset; cough and dyspnea may overlap, challenging the diagnosis at least in the first phases, and therefore delaying the appropriate therapeutic strategies. Taken together, these considerations force clinicians, and mostly those who daily cope with severe asthma and severe asthmatics, to adopt novel, and not rarely never experienced before, strategies and pathways to continue treating patients without increasing the risk of contagious. Pandemics are unanticipated, and the time has come to put together skills and experiences, and to make the best out of the clinical activities that centers of excellence for asthma around the world have proposed.

In our perspective, the current emergency situation has accelerated the application in real life contexts of techniques of home monitoring and teleconsulting, aiming to minimize the risk of exposure to positive COVID-19 patients related to in-person healthcare visits in hospital facilities.[2] Most of the outpatient visits have been transformed into ''virtual visits'' in which the patient is followed by means of electronic tools.[3] Telemedicine has proven to be particularly useful in the management of patients with chronic diseases such as asthma who need continuous monitoring. Romano et al.,[4] showed that the use of this approach in persistent asthma is associated to reduction in symptoms and improvement in quality of life. Another study comparing telemedicine with face-to-face visits showed equal disease control suggesting that telemedicine can be considered a valid alternative.[5] The question is whether severe asthmatics under biological treatment are also candidates for distance monitoring. No doubt that this is applicable when symptoms are under control, and patients can be regularly followed by phone calls of electronic diaries. In other words, in the context of severe asthma virtual patient encounters become efficient for delivering clinical services within a risk-stratified context. On the other hand, when the disease is out of control, symptoms are not crystal-clear, the suspect of drug-related side effects is concrete, or patients want to arbitrarily stop the biologic drug, face-to-face-interactions are mandatory. This scenario requires deep thinking on how to design dedicated areas in outpatient clinics at the hospitals or ambulatory services for severe asthma, since agreements on how to prioritize service shut down and patient care are scarce and mostly reflect regional epidemic and local decisions.

Prior to describing potential measures or promising decisions, it should be clear that such measures would be for emergency purposes only, such as at the present time, with the hope that the contingency planning will eventually have an end. Most of the suggestions below are appropriate for the greatest level of social distancing and quarantine, such as that during a lockdown state, but obviously may vary according to the evolving conditions. In the hope of a return to normality, some of the clinical decisions at social or institutional levels may even last, if deemed necessary and cost-effective.

We envision a condition in which patients already under biologic drugs are advised to continue the administration of medications. There is no scientific reason why severe asthmatics should stop their medications. With the aim to

https://doi.org/10.1016/j.pulmoe.2020.08.001

Please cite this article in press as: Benfante A, Scichilone N. Pulmonol. 2020. https://doi.org/10.1016/j.pulmoe.2020.08.001

reduce contacts and to avoid any withdrawal of biological treatment, patients supported programs (PSP) should be implemented and home delivery of medications activated. The PSP often offers a nurse support and a training to patients and/or caregivers on the subcutaneous injection technique of administration. This is particularly important for older patients, since it has been demonstrated that biologics are safe and commonly used in this population.[6] The PSPs were born before the outbreak, but this is a unique opportunity to implement them, in that, they are becoming a resource for the health care system, preserving patients from visiting the hospital when the clinical conditions do not necessarily require it. A re-organization of the public health system that involves local pharmacies able to deliver the drug, community nurses qualified to administer the drug at home, health-care workers appointed to specifically train and educate patients and their care-givers to self-management, application of digital medicine services to follow stable patients is mandatory. At this stage, lung function assessment should be limited because of the potential for coughing and droplet formation.[7]

A situation that cannot be underestimated is the potentially tragic consequences of fake news on subjects affected by severe asthma. Since stress, fear and anxiety can trigger asthma attacks, patients should be advised to only rely on scientific sources about COVID-19, and provided with psychological support whenever needed. Some centers for excellence for severe asthma have already incorporated a psychologist in their multidisciplinary team.

In the case of refusal of home administration, or need for face-to-face-visits, appointments at the hospital facilities should always be assured, using a specific operational plan that includes a phone triage to explore the occurrence of respiratory symptoms suggestive of COVID-19 the day before the in-person visit and/or contact with COVID-19 positive subjects. Upon entering the facility, the patient should be instructed to follow rigid protocols to mitigate risk to both medical staff and patients during the ongoing pandemic, including separate waiting areas and pathways, administering specific questions related to health status and measuring body temperature. Proper use of medical masks is mandatory for both patients and health-care workers.[8]

Our experience and current reports[9] support the strategy that, during the COVID-19 pandemic, every effort should be made in patients affected by chronic respiratory diseases at high impact like severe asthma to minimize patient contact with the health-care system, planning specific pathways that allow patients to receive appropriate medical care and to continue the biological therapies administration, preventing the loss of disease control and exacerbations. Whether specific phenotypes of asthma will guide decisions on how to manage the disease in relation to the susceptibility to virus infection is a current object of active research.[10] Innovative tools, such as telemedicine[11] and digital medicine services, are strongly encouraged, and home-delivering and self-administration of the biological drugs will necessarily become (like it or not) an essential part of the overall clinical management of severe asthma.

References

1. Velavan TP, Meyer CG. The Covid 19 epidemic. Trop Med Int Health. 2020;25:278–80.
2. Calton B, Abedini N, Fratkin M. Telemedicine in the time of coronavirus. J Pain Sympt Manage. 2020;60:e12–4.
3. Abrams EM, Szefler SJ. Managing asthma during COVID-19: an example for other chronic conditions in children and adolescents. J Pediatr. 2020;222:221–6.
4. Romano MJ, Hernandez J, Gaylor A, Howard S, Knox R. Improvement in asthma symptoms and quality of life in pediatric patients through specialty care delivered via telemedicine. Telemed J E Health. 2001;7:281–6.
5. Portnoy JM, Waller M, De Lurgio S, Dinakar C. Telemedicine is as effective as in-person visits for patients with asthma. Ann Allergy Asthma Immunol. 2016;117:241–5.
6. Benfante A, Principe S, Battaglia S, Scichilone N. Are biological drugs effective and safe in older severe asthmatics? Expert Opin Drug Saf. 2019;18:369–80.
7. Drummond M. Sleep labs, lung function tests and COVID-19 pandemic – only emergencies allowed! Pulmonology. 2020;26:244–5.
8. Ippolito M, Vitale F, Accurso G, Iozzo P, Gregoretti C, Giarratano A, et al. Medical masks and respirators for the protection of healthcare workers from SARS-CoV-2 and other viruses. Pulmonology. 2020;26:204–12.
9. Malipiero G, Heffler E, Pelaia C, Puggioni F, Racca F, Ferri S, et al. Allergy clinics in times of the SARS-CoV-2 pandemic: an integrated model. Clin Transl Allergy. 2020;10:23.
10. Morais-Almeida M, Bousquet J. COVID-19 and asthma: to have or not to have T2 inflammation makes a difference?; 2020, http://dx.doi.org/10.1111/all.14482.
11. Angelucci A, Aliverti A. Telemonitoring systems for respiratory patients: technological aspects. Pulmonology. 2020;26:221–32.

A. Benfante, N. Scichilone*
Dipartimento Universitario di Promozione della Salute, Materno Infantile, Medicina Interna e Specialistica di Eccellenza ''G. D'Alessandro'' (PROMISE), Division of Respiratory Medicine, ''Paolo Giaccone'' University Hospital, University of Palermo, Palermo, Italy

*Corresponding author.
E-mail address: nicola.scichilone@unipa.it (N. Scichilone).

Please cite this article in press as: Benfante A, Scichilone N. Pulmonol. 2020. https://doi.org/10.1016/j.pulmoe.2020.08.001