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Editorial/Thoracic imaging

COVID-19 after 18 months: Where do we stand?



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As we enter the second summer of the COVID-19 era, the review by Kato et al. offers an opportunity to look back and appreciate the considerable work already achieved on COVID-19 and the role of imaging in the management of patients affected by the disease [1].

A year and half ago, we were facing the first wave of the pandemic and, at this time, polymerase chain reaction tests were lacking. Imaging played a major role in the diagnosis and triage of patients during these very tough times. This was made possible due to availability of chest computed tomography (CT) and early identification of CT features of COVID-19 pneumonia [2,3]. Several studies have demonstrated the excellent specificity of chest CT to differentiate COVID-19 pneumonia from other causes of infections, including other viral pneumonias [4]. This made chest CT a key examination during the first wave of the pandemic. Chest CT also helped raise awareness regarding the risk of pulmonary embolism associated with COVID-19 pneumonia [5]. This led to an increase of the number of CT pulmonary angiographies (CTPA) performed in the subsequent waves of the pandemic, with now the need to define adapted pre-test selection criteria. Indeed, prevalence of pulmonary embolism is low when CTPA is performed as a systematic procedure [6].

Since the beginning of the COVID-19 pandemic, radiology departments have successfully adapted their organization to manage this new flow of patients, separating potentially infected and uninfected patients. Interventional radiology has adapted to limit the exposure of professionals, while continuing to provide care using innovative approaches [7]. However, as Kato et al. remind us, COVID-19 pneumonia can be incidentally found in patients referred for other reasons that COVID-19 suspicion, such as follow-up of chronic diseases [1,8]. This requires a constant vigilance on hygiene and disinfection rules.

Our specialty, which is continuously innovating, has shown its resilience during this pandemic. In a few months, artificial intelligence tools have also been developed for the diagnosis, quantification and prognostication of affected patients based on chest CT data [9]. In France, nationwide imaging databases have been

created to enable the development of artificial intelligence tools [10]. National surveys have been conducted to evaluate the impact of COVID-19 on radiology centers [11] and the performance of chest CT for the diagnosis of COVID-19 pneumonia [12]. We can be proud of the huge amount of work that has been successfully done.

The efforts of radiology professionals (radiologists, but also technologists) have, of course, been only one part of a global effort led by all healthcare workers and also by industry. Although vaccines have been developed in record time and the vaccination campaign is progressing along with a decline in incidence, our life with the pandemic seems far from over. As previously observed after the first SARS-CoV outbreak in 2003 [13], residual impairment of lung function and fibrotic changes are now observed in a not negligible proportion of patients who were affected by severe COVID-19 pneumonia. A French multicenter study is currently conducted to assess the potential of nintedanib to stop the development of lung fibrosis in patients with a severe form of COVID-19 (ClinicalTrials.gov Identifier: NCT04541680). In addition, the emergence of new variants raises fears that the pandemic will rebound. So even though we do not know what the future holds, it seems very likely that we are not done with this pandemic and its consequences.

Human rights

The authors declare that the work described has been carried out in accordance with the Declaration of Helsinki of the World Medical Association revised in 2013 for experiments involving humans.

Informed consent and patient details

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Abbreviations: CT, Computed tomography; CTPA, CT pulmonary angiography.

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