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Letter to the Editor

Can chest computed tomography findings be compared between outpatient and hospitalized COVID-19 patients?

Dear Editor,

We read with great interest the recently published study by Zarei et al. [1] that described the computed tomography (CT) findings in outpatients and hospitalized patients that tested positive for COVID-19 at RT-PCR in Shiraz. The Authors surely should be commended for their efforts in evaluating chest CT findings of COVID-19 in a relevant sample of patients. However, some concerns could be raised, especially about the methods adopted in this cross-sectional study which, in our opinion, suggest taking with caution at least some of the conclusions drawn by the Authors.

The role of chest CT as a fundamental diagnostic tool for the diagnosis of COVID-19 infection has been widely underlined by many studies [2]. Especially at the beginning of the pandemics, chest CT proved to be useful because of the typical signs of COVID-19 pneumonia that could be easily identified.

The Authors analyzed a total of 559 between outpatients and hospitalized patients classified as COVID-19 positive based on a positive result at RT-PCR, which is widely recognized as the most reliable test to identify COVID-19 infection [3]. Anyway, the time between nasopharyngeal swab for RT-PCR positive testing and CT is not reported, nor the time between symptoms onset and CT, since these could have affected the imaging findings. Indeed, at the beginning of the disease, patients show mainly ground-glass opacities, while in more advanced stages, they tend to show more severe patterns like crazy-paving and consolidations [2]. Moreover, it is not clear if some patients with minor lung involvement at the beginning of the infection have later shown a worsening of the pulmonary function, requiring hospitalization.

About the CT findings recorded, some fibrosis signs (traction bronchiectasis, parenchymal bands, etc.) have been reported. Still, it is not clear if those findings are linked to a longlasting COVID-19 infection or were due to different preexisting lung diseases. Indeed, hospitalized patients showed a higher frequency of these findings, in many cases significantly higher, probably because they already had an impaired lung function that was worsened by COVID-19. This point raises another issue that could have affected this comparison and the conclusion drawn. There are no specifications about the presence and type of comorbidities in the two analyzed populations. It is well recognized that cardiometabolic diseases, such as diabetes, hypertension, and coronary artery disease/cardiovascular disease, correlate with increased disease severity [4]. Hence, the authors should have also compared the comorbidities of the two groups since the severity of COVID-19 pneumonia could have been related to those underlying pathologies.

Finally, there are no mentions of COVID-19 vaccine immunizations. It is hard to believe that since February 2020, the date reported for the retrospective data collection, none of the patients have been immunized with the COVID-19 vaccine. Obviously, this information should have been considered when comparing outpatient and hospitalized cases.

In summary, while we agree that surely some differences in the chest CT findings could be found in outpatients and hospitalized patients, it should be highlighted that the multiple biases of this retrospective study could affect the robustness of the conclusions drawn by the Authors.

Contributors

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Ethical approval

Ethical approval is not required for this article type.

Competing Interests

No conflicts of interest to declare.

Giulio Cabrelle Chiara Zanon* Filippo Crimì Emilio Quaia

Department of Radiology, University of Padua, Padua, Italy *Corresponding author: University Hospital, via Giustiniani, 2 35128 Padova, Italy.

E-mail address: chiara.zanon.5@studenti.unipd.it (C. Zanon)

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