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Letter to the Editor

# CT chest findings in coronavirus disease-19 (COVID-19)

*To the Editor,*

We read with great interest the timely presented research article by Cheng et al. outlining the first case of COVID-19 in Taiwan.[1] With World Health Organization (WHO) declaring the disease to a pandemic level, it is important for the active clinicians to be well versed with the clinical and radiological findings of this disease for early diagnosis and action.[2,3] In this article, the authors have meticulously delineated the clinical progress of the patient but most impressive part is the succinct but clear explanation of the radiological features. With our letter we wish to complement the article and elaborate more in the chest imaging in COVID-19. Although most of the radiological findings presented in these patients are generic and can be seen in many systemic infectious processes such as pneumonia (viral or bacterial), inflammatory conditions (inflammatory lung diseases, vasculitis) and cardiac etiologies affecting lung parenchyma such as decompensated congestive heart failure, early recognition and high index of suspicion is of paramount importance.

In terms of the radiological findings on a chest X ray or CT scan, the infiltrative process can be even seen unilaterally unlike the case in description.[4–6] As the timeline progresses and with the progression of the disease, the radiological findings tend to become more confluent and bilateral. These can range from ground glass opacities (GGOs) to dense consolidations. At this point there is limited evidence to state that denser or more confluent radiological lung involvement is linked to worse clinical outcomes, but it is clear that the longer duration of illness is definitely linked to diffuse bilateral infiltrates with bibasilar distribution.[4,7,8]

Even though the authors described this case as confirmed corona virus infection, they have omitted the important additional information about these patients such as underlying medical comorbidities, fluid status (volume overload), recent use of steroids and other concomitant infections (superadded pneumonia with corona virus infection).

As we see more and more of these cases, it would also be interesting to know the difference in the radiological features of patients that required mechanical ventilation versus patients who did not, since positive pressure ventilation can affect the radiological findings in these patients. The readers would also benefit from the information about difference in clinical outcome of these patients with benign initial chest imaging that progressed to prolonged illness and/or further need for invasive mechanical ventilation versus the patients who present with early confluent radiological findings.

Finally, it is expected that just like any other illness, these patients will present with sepsis like presentation and will be aggressively fluid resuscitated. Cautious (restricted) intravenous fluid strategy should be the used in these patients to avoid florid fluid overload and progression to ARDS which is more likely seen with liberal fluid strategy would.

This important publication definitely provides valuable information to the readers. Further characterization of radiological features in the right context of patient specific comorbidities and relation with other medical conditions (superadded pneumonia, underlying heart failure or fluid overload and rheumatological diseases) would definitely add value to the knowledge in this field and educate the treating clinician pool of internists, pulmonologists, intensivists and radiologists alike.

## Declaration of Competing Interest

The authors have no conflicts of interest relevant to this article.

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