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Letter to Editor

The evolution of CT characteristics in the patients with COVID-19 pneumonia

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Dear Editor,

We have read with interest the recent papers in this Journal by Xu et al and also Yang et al who described radiological features of Chinese patients hospitalized with COVID-19 infection.^{1,2} In that study, significant statistical differences were observed in CT features of peripheral involving central ($P = 0.028$), consolidation ($P = 0.009$), and thickened interlobular septa ($P = 0.040$) between moderate ($n = 28$) and sever/critically severe ($n = 13$).¹ We would like to share our opinions about the evolution of radiological features in the patients with COVID-19 infection. Actually, the CT features are various at different stages in the patients with COVID-19 infection.

Currently, the "gold standard" is real-time reverse transcriptase polymerase chain reaction (RT-PCR) amplification of the viral DNA for diagnosis of COVID-19 infection. However, Medical imaging is of great significance in the detection and surveillance of COVID-19 infection. Recently, the studies demonstrated that the CT findings were typical signs for diagnosis at different stages of COVID-19 pneumonia.^{3,4} Particularly, ground glass opacities (GGO) and consolidation were the principal manifestation in the CT images (CT scans before onset of symptoms or CT scans done ≤ 1 week after symptom onset), and GGO was decreased with increasing the stages of COVID-19 pneumonia. However, the consolidation or GGO mixed consolidation increased, and reticular was also observed in the later stages (scan > 1 week after symptom onset). Pleural effusion or lymphadenopathy was rarely seen.⁴ CT features were distributed primarily in the lower lobes and subpleural (especially in the right lower lobe),^{4,5} with rapid evolution from focal unilateral pulmonary parenchyma to diffuse bilateral GGO or GGO with consolidation within 1-3 weeks.⁴ Therefore, knowing the corresponding CT feature of COVID-19 pneumonia at different stages, which could be helpful to precisely diagnose and understand CT characteristics of the novel coronavirus pneumonia beyond the radiological findings itself.

In conclusion, there were some CT characteristics concerning the location of lesion, GGO, consolidation, etc. detected in the patients with COVID-19 pneumonia. However, the evaluation of primary CT findings in COVID-19 pneumonia is various at different stages.

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