

Imaging features in COVID-19 - Experience from Wuhan



A study was conducted in China to evaluate the CT scan features of patients with COVID 19 pneumonia. The study looked at the CT scan imaging features in 100 COVID-19 pneumonia patients (mean age 52.3 years) without acute respiratory distress syndrome. A total of 272 CT scans were read and evaluated based on the different stages of the disease. The course of COVID-19 pneumonia consisted of three stages: 1~7 days is the early rapid progressive stage, 8~14 days is the advanced stage, and after 14 days, the abnormalities started to decrease.

Results

While all patients were confirmed COVID -19 positive, four patients with lung changes on the CT scan had an initial negative real-time polymerase chain reaction study which later turned positive. Of the 272 CT scans, 62% showed a predominantly peripheral distribution of disease. Further, the disease appeared to be localised more to the lower lobes and posterior zones compared to the upper lobes.

During the early rapid progression stage (days 1-7), the CT scan showed ground-glass opacity with reticular pattern and consolidation. In the advanced stage (8-14 days) the CT revealed ground-glass opacities plus consolidation. In this stage, evidence of lung fibrosis started to appear as evidenced by fibrotic strips and distortion of the bronchial anatomy. In the absorption stage (after day 14) the intensity of the ground glass opacities and consolidation started to decrease. The CT scan did not show the presence of pleural effusion, pneumothorax, or pleural thickening.

Conclusion

The conclusion of this imaging study on COVID-19 patients was that the infection was predominantly peripheral in nature. In addition, the lung disease was bilateral and more common in the lower lobes compared to the upper lobes. Also, the lung disease was more common in the posterior segments as opposed to the anterior segments. The earliest changes on the CT scan were rapid and seen within 1-7 days. The disease showed worsening on the CT scan in the progressive stage. Finally, in the resolution stage, the CT started to show a decrease in the intensity of the lung lesions.

Source: [European Radiology](#)

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