

Case Report

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Chest CT surprising improvement in COVID-19 patient

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Abstract

A surprising improvement in COVID-19 chest CT follow up gives hope regarding future clinical evolution of COVID-19 patients.

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Case report

A 56-year-old man was admitted for severe COVID-19 pneumonia [1-3]. He did not smoke and was on treatment with valsartan 80 mg daily for hypertension. Body mass index was 32.7. Symptoms (Cough and Fever) started 8 days before hospital admission. Nasopharyngeal RT-PCR swab was positive for SARS CoV-2. Laboratory results showed increased white blood cells count, C-Reactive Protein (CRP), lactate dehydrogenase, D-dimer and fibrinogen values (11.6 x 10⁹/L, normal range 4.19- 9.35; 79 mg/L, normal range 0-5; 251 U/L, normal range 135-225; 1794 ng/ml; 600 mg/dl normal range 270-470; respectively). He was treated with hydroxychloroquine, lopinavir/ritonavir and steroids association. Ten days after admission he experienced a rapidly worsening of respiratory exchanges (P/F ratio 40) and needed endotracheal intubation. Contrast enhanced Chest CT scan was immediately done and pulmonary embolism was excluded. Selective right bronchus intubation was noted (Figure 1 panel C), and the tube was retracted accordingly. Axial views at apexes, aortic arch, carina bifurcation, main right scissura and up the diaphragm, showed an almost complete bilateral pulmo-

nary consolidation, with poorly represented ground glass opacities (Figure 1 panels A,B,C,D,E). Bronchial aspirate culture done the same day was negative, and no clear evidence of secondary infection was present; broad spectrum antibiotics were started. CRP the day after intubation was 53 mg/L.

After 4 days in the Intensive Care Unit, clinical condition progressively improved and ventilatory support was gradually weaned.

A CT scan done 16 days after the previous one showed a surprising improvement, with impressive reduction of opacities and consolidations; some ground glass opacities and reticular pattern were still visible, with predominant peripheral and posterior location (Figure 1 panels F,G,H,I,L). CRP was 6 mg/L.

Thirty-nine days after admission, patient was transferred in a rehabilitation unit, clinically cured and with a P/F ratio of 276. Fifty day after the second CT (67 days after admission) he performed a follow-up chest CT that showed markedly reduction in ground glass opacities and reticular lesions previously

described (Figure 1 panels M,N,O,P,Q). Post-discharge lung function evaluation, performed 67 days after admission, demonstrated a mild restriction and reduction in diffusing capacity of the lung for carbon monoxide (TLC 78% predicted and DLCO 71% predicted).

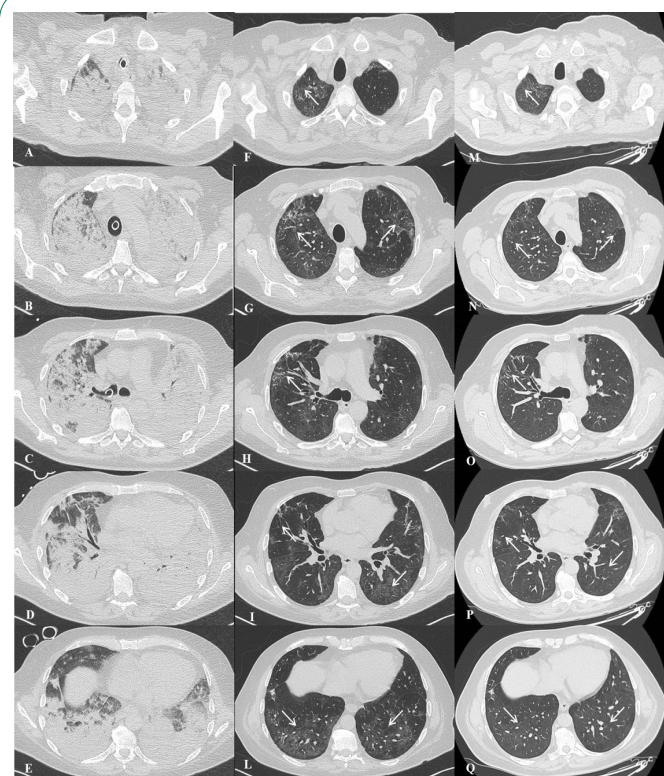


Figure 1: The CT images of 56-year-old man infected with COVID-19. **(A-E)** The axial views at upper zone, aortic arch, carina bifurcation, main right scissura and up the diaphragm, showed an almost complete pulmonary consolidation. **(F-L)** A CT scan done 16 days after the previous showed reduction of opacities and consolidations; some ground glass opacities and reticular pattern were still visible, with predominant peripheral and posterior location (arrows). **(M-Q)** A CT scan done 50 days after the second one showed markedly reduction in ground glass opacities and reticular lesions previously described (arrows).

Conclusion

The striking radiological and clinical improvement gives hope regarding future clinical evolution of this and other subjects.

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