

# COVID-19 organizing pneumonia with sudden dyspnea in an asymptomatic survivor

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Associate Editor: Belinda Miller

## Key message

This case shows that COVID-19 survivors can develop delayed-type pneumonia with sudden respiratory distress that responds dramatically to steroid treatment after remaining asymptomatic for more than several weeks, although pulmonary involvement of post-COVID-19 syndrome is often accompanied by long-term and severe sequelae such as pulmonary fibrosis.

## KEYWORDS

COVID-19, COVID-19 survivors, delayed-type pneumonia, organizing pneumonia, post-COVID-19 pneumonia

## CLINICAL IMAGE

A 46-year old woman with no prior medical comorbidities presented to the emergency department with sudden shortness of breath. She had been diagnosed with coronavirus disease 2019 (COVID-19) via rapid antigen test about 5 weeks prior and underwent home quarantine with no significant symptoms, taking painkillers only when needed. Arterial blood gas analysis revealed a pH of 7.43, pO<sub>2</sub> of 55.3 mmHg, pCO<sub>2</sub> of 33.5 mmHg, and SaO<sub>2</sub> of 88.9%. The results of the RT-PCR-based COVID-19 test were equivocal. Tested for other respiratory viruses, 22 respiratory pathogens (16 viral and 6 bacterial) were negative using RT-PCR. The levels of serum procalcitonin and D-dimer were within normal range. Contrast-enhanced chest computerized tomography showed extensive ground-glass opacities (GGO) and multifocal consolidations in all lobes (Figure 1A–D). There is no evidence of pulmonary embolism. Based on the clinical presentations, laboratory data, as well as radiological features, we diagnosed the patient with post COVID-19 syndrome, supporting by previous publications.<sup>1,2</sup> She received intravenous dexamethasone 6 mg/day for 2 days, followed by intravenous methylprednisolone 30 mg/day for 1 day. A significant reduction of GGO on both lungs was identified on chest radiographs on the second hospital day

(Figure 1E). Her symptoms and SpO<sub>2</sub> dramatically improved on the third hospital day. She was discharged with a prescription for oral methylprednisolone 15 mg/day for 5 days. Five days later, she visited the outpatient department with no significant dyspnea and GGO had nearly resolved on chest radiographs (Figure 1F). Follow-up chest computed tomography performed 2 months after the treatment showed the complete resolution of bilateral diffuse GGO (Figure 2). Prompt recognition of post COVID-19 organizing pneumonia on CT scans should be followed by immediate initiation of steroid therapy for optimal outcomes.

## AUTHOR CONTRIBUTIONS

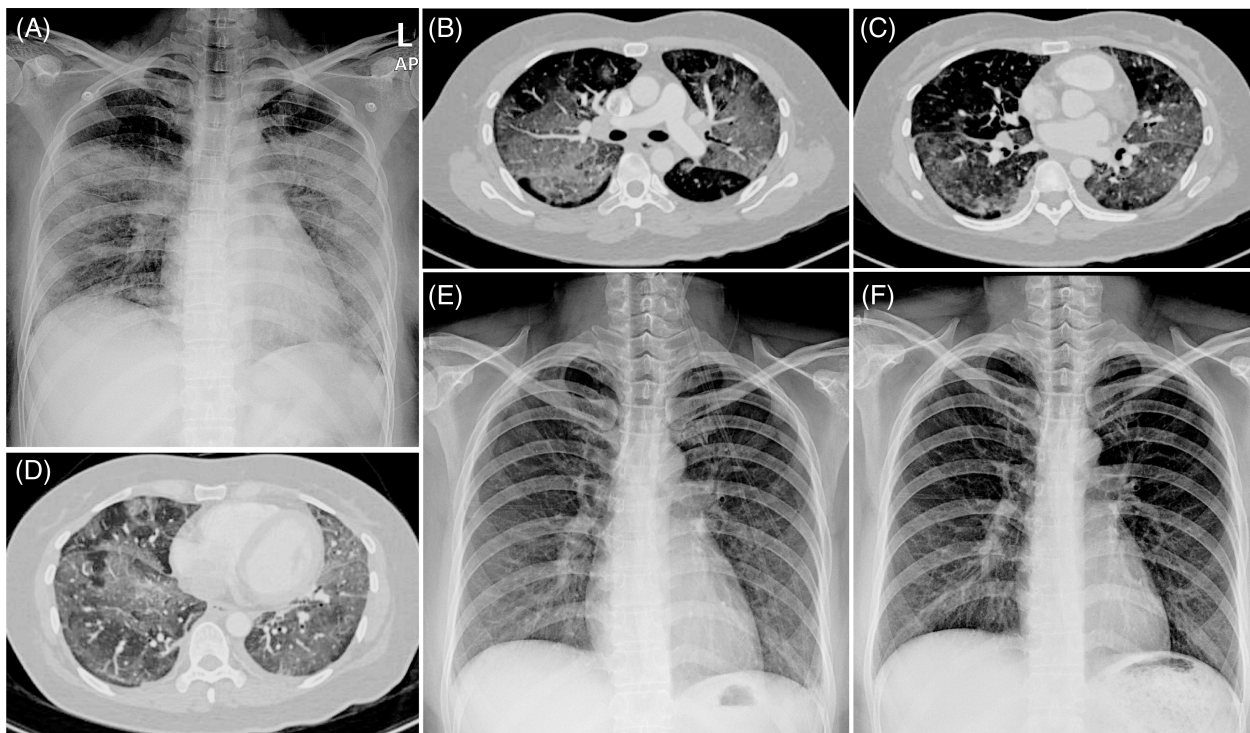
Hwan Jin Lee was involved in writing original draft, writing–review and editing and final approval of the manuscript. So Ri Kim was involved in writing original draft, reviewing, and the final approval of the manuscript and served as a supervisor throughout the manuscript writing process.

## CONFLICT OF INTEREST STATEMENT

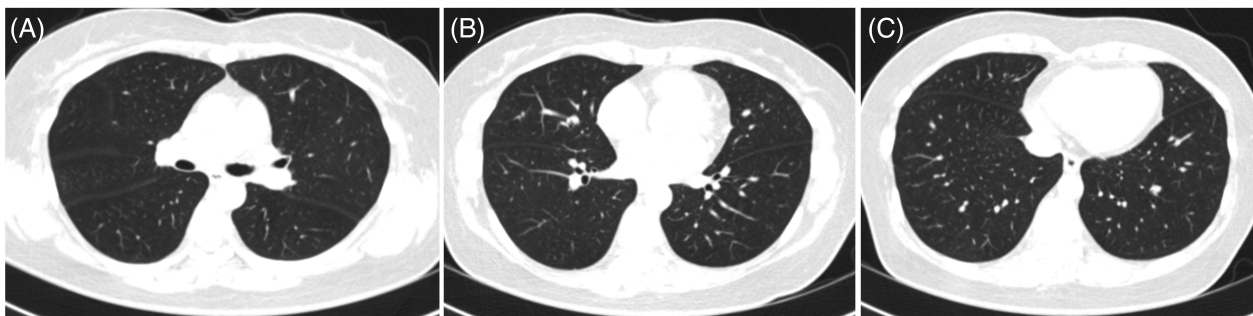
So Ri Kim is an Advisory Board member of Respirology Case Reports and a co-author of this article. She was excluded from all editorial decision-making related to the acceptance of this article for publication.

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**FIGURE 1** Chest radiographs and computed tomography (CT) scans showed extensive ground-glass opacities (GGO) and multifocal consolidations in all lobes. (A) Chest radiograph of anteroposterior view on the first hospital day. (B–D) Transverse views of the chest CT scans on the first hospital day. (E) Chest radiograph of the posteroanterior view on the second hospital day revealed a significant reduction of GGO on both lungs. (F) Chest radiograph at 5 days after the discharge indicated that GGO had nearly resolved.



**FIGURE 2** Follow-up chest computed tomography scans showed the complete resolution of bilateral diffuse ground-glass opacities.

#### DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

#### ETHICS STATEMENT

The authors declare that appropriate written informed consent was obtained for the publication of this manuscript and accompanying images.

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**How to cite this article:** Lee HJ, Kim SR. COVID-19 organizing pneumonia with sudden dyspnea in an asymptomatic survivor. *Respirology Case Reports.* 2024;12(2):e01300. <https://doi.org/10.1002/rcr2.1300>