CASE REPORT

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# Death Despite COVID-19 Vaccine: Case Report

COVID-19 Aşısına Rağmen Ölüm: Olgu Sunumu

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***ABSTRACT***

*In this study, a COVID-19 reverse transcription polymerase chain reaction (RT-PCR) positive case who died in the hospital with pneumonia after receiving two doses of inactive CoronaVac (Sinovac Life Sciences) vaccine is presented.*

*A 67-year-old female patient, who was vaccinated with two doses of the Coronovac vaccine, was admitted to the emergency room (ER) with dyspnea and cough. There was a bilateral ground glass image on thorax tomography. The patient's RT-PCR test was positive, and he was admitted to the hospital's V-19 ward. The patient, who stayed in the service for three days, was taken to the intensive care unit after his clinical condition deteriorated; moreover, she died after 11 days in the intensive care unit.*

*The expected protective effect may not be seen in old patients five days after two doses of vaccine. It would be appropriate for the vaccinated individuals to continue to protect themselves against COVID-19.*

***ÖZET***

*Bu çalışmada iki doz inaktif CoronaVac (Sinovac Life Sciences) aşısı olduktan sonra hastanede pnömoni nedeni ile hayatını kaybeden COVID-19 ters transkripsiyon polimeraz zincir reaksiyonu (RT-PCR) pozitif bir vaka sunulmuştur.*

*İki doz Koronovac aşısı yapılan 67 yaşında kadın hasta, nefes darlığı ve öksürük şikayeti ile acil servise (AS) başvurdu. Toraks tomografisinde bilateral buzlu cam görüntüsü mevcuttu. Hastanın RT-PCR testi pozitif çıktı ve hastanenin COVID-19 servisine kaldırıldı. Üç gün serviste kalan hasta, klinik durumunun ağırlaşması üzerine yoğun bakıma alındı; ayrıca yoğun bakım ünitesinde 11 gün kaldıktan sonra öldü.*

*İki doz aşıdan beş gün sonra, yaşlı hastalarda beklenen koruyucu etki görülmeyebilir. Aşılanan bireylerin kendilerini COVID-19'a karşı korumaya devam etmeleri uygun olacaktır.*

***Keywords:***
*COVID-19*
*Vaccine*
*Coronovac*
*Emergency department*

***Anahtar Kelimeler:***
*COVID-19*
*Aşı*
*Coronovac*
*Acil servis*

## INTRODUCTION

The COVID-19 pandemic affects people and countries negatively throughout 2020 and still. WHO announced that 148 329 348 COVID-19 patients were identified worldwide as 28.04.2021, of which 3 128 962 (2.1%) died (1). Therefore, vaccination studies have gained importance in resisting the COVID-19 pandemic. It is expected that vaccines will have a protective effect, especially against severe diseases and death, also be safe and effective. (2,3). As the COVID-19 vaccine in Turkey, the inactive CoronaVac (Sinovac Life Sciences) vaccine and BNT162b2 (Pfizer & Biontech) are applied in two doses with an interval of four weeks (4). In this study, a COVID-19 reverse transcription polymerase chain reaction (RT-PCR) positive case who died in the hospital with pneumonia after receiving two doses of inactive CoronaVac vaccine is presented. Thus, it is aimed to contribute to the limited medical literature about COVID-19 vaccines.

## CASE REPORT

A 67-year-old female patient applied to the Sakarya Training and Research Hospital (SEAH) emergency room (ER) with cough and dyspnea for about a week. The patient has a known history of hypertension and unipolar depression.

As medicine; she used olmesartan + hydrochlorothiazide 40/25 mg 1x1, duloxetine 60 mg 1x1, quetiapine 20 mg 1x1.

The patient received the first dose of the inactive CoronaVac (Sinovac Life Sciences) vaccine on 15.02.2021 and the second dose on 15.03.2021. The case, who developed cough and dyspnea approximately 4-5 days after the second dose of vaccine, was admitted to the SEAH ER on 25.03.2021. The patient's general condition was good, and she was conscious, oriented, and cooperative. Of the vital signs, fever was 36.4 oC, fingertip SpO2: 92, pulse 90/min, blood pressure: 120/80 mmHg, respiratory rate 20/min. With 4 L/min oxygen from the nasal cannula, SpO2 was found to be 97.

In the examinations of the patient, high levels of CRP, D-dimer, ferritin, LDH, urea, and creatinine were detected,

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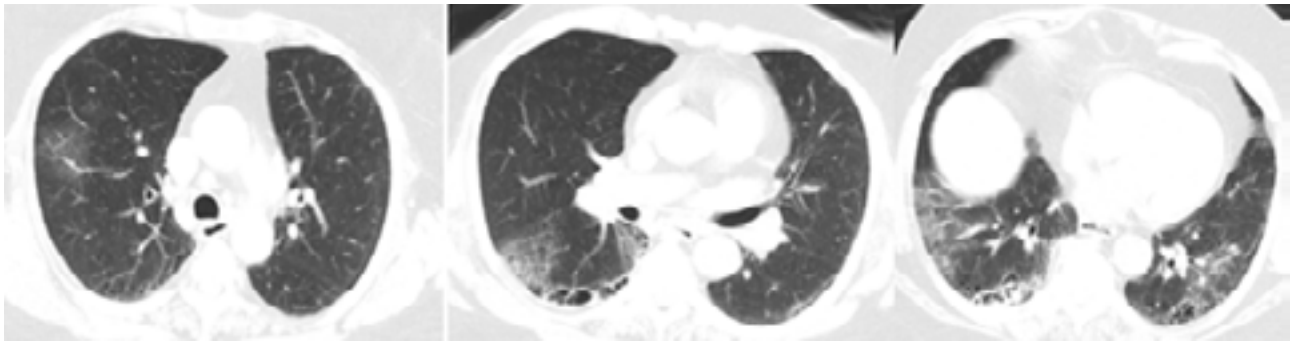

**Figure 1:** Ground-glass opacities in non-contrast axial thorax CT

**Table 1:** Blood test results

| Parameter | Result | The reference range |
|---|---|---|
| **WBC** | 6.9 | 4.6-10.2 K/uL |
| **PLT** | 150 | 142-424 K/uL |
| **NEU** | 4.9 | 2-6.9 K/uL |
| **LYM** | 1.5 | 0.6-3.4 K/uL |
| **CRP** | 44.5 | 0-5 mg/dL |
| **Ferritin** | 535.7 | 4.6-204 µg/L |
| **D-dimer** | 1190 | 0-500 ugFEU/L |
| **LDH** | 273 | 0-247 U/L |
| **Urea** | 81 | 17-43 mg/dL |
| **Creatine** | 1.7 | 0.51-0.95 mg/dL |

and the appearance of bilateral ground-glass opacities was observed in the thorax computed tomography (CT). See Table 1 and Figure 1 for patient's blood test results and thorax CT. A combined oropharyngeal and nasopharyngeal COVID-19 reverse transcription-polymerase chain reaction (RT-PCR) swab was obtained from the patient. The RT-PCR test positive patient was admitted to the COVID-19 service. Furthermore, she was followed up in the ward for three days and then taken to the intensive care unit (ICU) due to increased dyspnea and respiratory rate. After 11 days in intensive care, she died on 08.04.2021.

## DISCUSSION

In a meta-analysis, Lan Yang et al. found that dyspnea was associated with an increased risk of mortality in COVID-19 patients. The same study stated that high D-dimer, LDH, and ferritin negatively affected mortality in COVID-19 patients (5). Another research declared that high CRP levels and lymphopenia were correlated with increased mortality (6). It was noticed that the case presented to the ER with dyspnea, which was considered to be an indicator of poor prognosis; moreover, the blood analysis results confirmed high levels of D-dimer, CRP, ferritin, and LDH. Although the patient had two doses of the Coronovac vaccine, no change was observed in the test results indicating a poor prognosis. On the other hand, lymphopenia, another poor prognosis indicator, was not encountered in the patient at ER application.

Among the vaccines, the mRNA-1273 (Moderna) vaccine was stated to be 94.1% protective 14 days after the second dose, and the BNT162b2 vaccine was announced to be protective against 95% COVID-19 disease seven days after the second dose (7,8). Two inactive doses of the CoronaVac vaccine were applied to the patient in our study. Studies conducted in Brazil described that Coronovac vaccine protection efficiency against the severe disease was 50.4%, while studies conducted in Indonesia reported 78% (9).

Our case was symptomatic 4-5 days after the vaccine's second dose; furthermore, she was admitted to the ER with dyspnea and cough. Her RT-PCR test was positive; a bilateral ground-glass appearance on the thorax CT confirmed that she did not benefit from the vaccine.

## CONCLUSION

The expected protective effect may not be seen in old patients five days after two doses of vaccine. It would be appropriate for the vaccinated individuals to continue to protect themselves against COVID-19. It is necessary to stand alert in vaccinated patients against poor prognosis markers in COVID-19 disease.

**Conflict Interest: No conflict of interest was declared by the authors**

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