Severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) infection after allogeneic stem cell transplantation.

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Abstract

This is the first report of a case of COVID-19 after allogeneic stem cell transplantation. Our case suggests that COVID-19 may exist without characteristic CT images, especially in immunocompromised hosts, such as patients after transplantation.

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Key words:COVID-19,Allogeneic transplantation,malignant lymphoma

Introduction:

Severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) is the novel coronavirus first detected in Wuhan, China. The virus causes coronavirus disease 2019 (COVID-19). Over 1000000 cases of COVID-19 have been confirmed worldwide.¹Here, we report the first case of COVID-19 after allogeneic stem cell transplantation.

Case Examination:

A 61-year-old male with diffuse large B cell lymphoma transformed from follicular lymphoma underwent peripheral blood stem cell transplantation (PBSCT) from his HLA haploidentical daughter. He underwent de-escalation of immunosuppressant drugs because of early relapse after PBSCT. The duration of chronic graft-versus-host disease(GVHD) was extended, but he did not need additional therapy. At day 205 after PBSCT, he had a fever of 100°F and a wet cough. He visited our hospital because his symptoms persisted for two days. He had not traveled to a foreign country nor had contact with anyone with COVID-19. His chest X-ray showed no apparent bacterial pneumonia, and a CT scan showed only small nodules that were diagnosed as scar tissue from past organizing pneumonia and pleural effusion (figure 1). Although he was

radiographically atypical for COVID-19, a COVID-19 PCR test was performed on a nasopharyngeal swab. Laboratory tests showed leukopenia (WBC 1000/ μ l), neutropenia (ANC 20/ μ l) , a high procalcitonin level (8.94 ng/ml), and a high CRP level (26.3 mg/dl). He was hospitalized and started taking antibiotics with a diagnosis of community-acquired pneumonia. PCR was positive the day after hospitalization. By the ninth day in the hospital, his respiratory condition had not worsened.

Discussion:

Currently, COVID-19 is spreading around the world. It has been reported that there are typical COVID-19 imaging patterns on chest CT. Chinese researchers revealed bilateral lung opacities on chest CT in COVID-19 patients and described lobular and subsegmental areas of consolidation as the most typical findings.² Another study found that the hallmarks of COVID-19 on imaging were bilateral and peripheral ground-glass and consolidative pulmonary opacities.³However, in our patient, we did not find typical findings on CT. This is the first report of a case of COVID-19 after allogeneic stem cell transplantation. Absence of the characteristic imaging features might be related to leukopenia or immunosuppression. Our case suggests that COVID-19 may exist without characteristic CT images, especially in immunocompromised hosts, such as patients after transplantation.

Conclusion:

Although there are many unclear points about COVID19, there may not have shown typical images, and it is important to note the possibility of infection, especially in immunocompromised patients.

Authorship

TO: managed the patient and wrote the manuscript.

FI,AO,and AY: reviewed the manuscript.

Conflict of interest

None declared.

Figure legend

1-A) Chest CT findings. Organizing pneumonia was observed in both upper lobes.

1-B) Chest CT findings.Bilateral pleural effusion was present.

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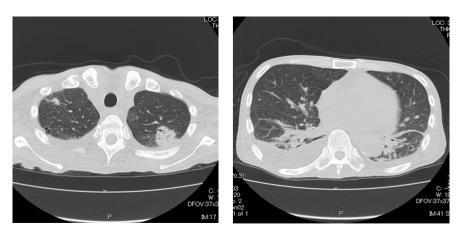


Figure 1-A

Figure 1-B