A Prolonged Course of COVID-19 Infection in a Patient with Follicular Non-Hodgkin’s Lymphoma in Remission on Rituximab

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Introduction

- Hospitalized COVID-19 patients with a recent history of hematologic malignancy have higher mortality rates, but the role of immunologic therapy on patient outcomes is unknown.
- The impact of rituximab on COVID-19 disease severity in patients with a history of hematologic malignancy is poorly understood.

Case Description

A 62-year-old man with known COVID-19 infection presents with fevers and shortness of breath.

- Stage II Grade 1-2 bulky follicular non-Hodgkin’s lymphoma in remission
- Hospitalized for COVID pneumonia one week prior
  - No supplemental O2 required
  - Dexamethasone and remdesivir for 3 days
- Diet-controlled Type II diabetes mellitus
- Hyperlipidemia
- Rituximab maintenance therapy every 8 weeks, last infusion 4 weeks prior to presentation
- Celecoxib 100mg 3 times daily as needed
- Ato伐astatin 80mg daily

Vitals: T: 100.6°F HR: 104 RR: 20 O2: 94% RA
Gren: Tachycardic, no m/r/g

Hospital Course

- Abdominal CT scan showed complete resolution of previous bulky lymphoma with no evidence of malignant relapse.
- On day 16 of admission, more than 5 weeks after symptom onset, SARS Coronavirus 2 IgM and IgG were nonreactive.
- Due to clinical picture, radiographic imaging suggestive of COVID-19, and negative findings for other infection, convalescent plasma was given on day 17 of admission.
- Ultimately, the patient suffered a large stroke, and his family made the decision to withdraw supportive measures and transition to comfort care on day 22 of admission.

Discussion

- Standard COVID-19 treatment was delayed due to our patient’s unusual disease course.
- The role of each component of the immune response in COVID-19 infection is unknown.
- Although hospitalized COVID-19 patients with a recent history of hematologic malignancy have higher mortality rates, the impact of recent rituximab treatment on this patient population is poorly understood.
- Prolonged courses of COVID-19 in patients on rituximab have been reported, but large retrospective analyses on this cohort are lacking.

Conclusion

- We present a case of prolonged COVID-19 in a patient with non-Hodgkin’s lymphoma on rituximab who failed to develop antibodies after 5 weeks of infection.
- Multiple factors may have contributed to our patient’s demise, but the absence of an antibody response in the setting of rituximab therapy is of significant interest.
- We would like to highlight this potentially high-risk patient population with the hope to change patient outcomes through further study and early intervention.

References