KANSAS JOURNAL of MEDICINE

Letter to the Editor

Comment on "Drug-Induced Lupus Following mRNA COVID-19 Vaccination and Monoclonal Antibody Infusion for Treatment of COVID-19 Infection"

Hineptch Daungsupawong[1], Viroj Wiwanitkit[2]
[1]Private Academic and Editorial Consultant, Phonhong, Laos
[2]Saveetha Dental College and Hospitals, Saveetha Institute of Medical and Technical Sciences, Saveetha University, Chennai, TN, India
Department of Research Analytics

Received May 2, 2024; Accepted for publication July 22, 2024; Published online Sept. 5, 2024
https://doi.org/10.17161/kjm.vol17.22328

To the Editor:

We would like to share ideas on "Drug-Induced Lupus Following mRNA COVID-19 Vaccination and Monoclonal Antibody Infusion for Treatment of COVID-19 Infection."[1] This case study describes a patient who had the Moderna mRNA COVID-19 vaccine, monoclonal antibody infusion, and further immunization before developing drug-induced lupus (DIL). The report describes the patient's appearance, diagnostic process, and course of therapy, emphasizing the difficulties in identifying DIL because there are no clear guidelines. There are some methodological issues with the case, despite the fact that it offers insightful information about how DIL manifests after vaccination. The study does not address the precise methods by which the patient's monoclonal antibody infusion and COVID-19 vaccination may have caused DIL, nor does it go into possible drug interactions with the patient's underlying medical history.

A more comprehensive analysis of the literature on DIL in relation to COVID-19 vaccinations and monoclonal antibody infusions would also be beneficial to the report. A more thorough examination of prior DIL cases following vaccination may help to clarify the risk factors and consequences related to this condition. The long-term effects of DIL in this patient, such as the possibility of recurrence or the requirement for further monitoring, also are not included in the study. In order to improve clinical practice and patient care, future research should concentrate on clarifying the pathogenesis of DIL in relation to COVID-19 immunization and monoclonal antibody therapy.

The report also fails to address how genetic predisposition to DIL after vaccination may be a result of immunization. Future research should take into account the possibility that genetic sensitivity to drug-induced autoimmune reactions contributes significantly to the development of DIL. Furthermore, the impact of DIL on the patient's long-term prognosis and quality of life is not discussed in the report. In order to better support patients who suffer this uncommon adverse event, health care personnel may find it helpful to understand the psychological and social ramifications of DIL. Research should go further in the goal of creating individualized strategies for managing DIL that take into consideration each patient's unique risk factors and response to treatment.

In summary, even though the case report offers insightful information about the diagnosis and treatment of DIL following vaccination, there are certain methodological flaws and room for development. The pathogenesis of DIL in relation to COVID-19 immunization and monoclonal antibody therapy should be clarified in future studies. Genetic variables that predispose people to DIL also should be investigated, as should the long-term effects of this condition on patients' quality of life. Health care professionals can better understand and manage drug-induced lupus in the context of developing medicinal solutions by addressing these limitations and concentrating on these future directions.

REFERENCES

1 Nguyen T, Wanjala S, Akkawi AR, Rowe K, Malik B. Drug-induced lupus following mRNA COVID-19 vaccination and monoclonal antibody infusion for treatment of COVID-19 infection. Kans J Med 2024; 17:36-38. PMID: 38694172.

Author Response

Timothy Nguyen, D.O.[1], Stephen Wanjala, M.D.[1], Abdul Rahman Akkawi, M.D.[1], Kyle Rowe, M.D.[1,2], Basit Malik, M.D.[2]
[1]University of Kansas School of Medicine-Wichita, Wichita, KS
Department of Internal Medicine
[2]Robert J. Dole VA Medical Center, Wichita, KS

Thank you for the thoughtful and detailed review of our manuscript titled "Drug-Induced Lupus Following mRNA COVID-19 Vaccination and Monoclonal Antibody Infusion for Treatment of COVID-19 Infection." We appreciate the opportunity to clarify our intent and address the points raised.

The primary purpose of our case report was to raise awareness about a rare and concerning phenomenon that has yet to be widely reported. Our patient's case, involving the development of drug-induced lupus (DIL) associated with the administration of the Moderna mRNA COVID-19 vaccine and a monoclonal antibody infusion, was particularly noteworthy due to the short timeframe and the lack of other contributing factors. Our intent was not to provide an exhaustive explanation of the mechanisms of DIL but to highlight a potential adverse effect of COVID-19 vaccination and monoclonal antibody therapy that warrants further investigation.

We carefully considered all the patient's medications and health status. The patient was on a limited number of medications, and there were no changes in his health or medication regimen other than receiving the COVID-19 vaccine and monoclonal antibody infusion within a short period. This temporal association suggests a possible link that deserves attention in case there are other following cases that share a similar timespan.

We acknowledge the reviewer's suggestion for a more comprehensive analysis of the literature. However, it is important to note that there are currently very few studies that adequately can explain this phenomenon, as well as DIL in general. The rarity of this occurrence and the limited data available underscore the need for further research, which our case report aimed to encourage.

Our goal in publishing this case report was to present a potential concern and a rare adverse event to the medical community, thereby

encouraging more research and investigation into this area. By sharing our findings, we hope to contribute to a growing body of knowledge that will ultimately lead to a better understanding of DIL and its associations with COVID-19 vaccination and monoclonal antibody therapy.

We agree that research should go into individualized strategies for managing such illnesses. For this patient, his symptoms had entirely resolved as seen in his three-month follow-up without any residual symptoms, further suggesting the self-resolving nature of DIL. For the psychological and social ramifications of this event, we agree that this aspect would have been a valuable addition to this paper. At his three-month follow-up, our patient was concerned about this phenomenon reoccurring. After further reassurance and explanation, he understood what we believed might have caused it, and it did not lead him to reject future vaccinations. He continued to receive his age-appropriate vaccinations and further recommended COVID-19 vaccinations one year later.

In conclusion, while our report did not delve into the detailed pathogenesis of DIL, it serves as a crucial step in raising awareness and prompting further scientific inquiry. We believe that highlighting such cases is essential for advancing medical knowledge and improving patient care. To our knowledge, there are no published data on DIL associated with the COVID-19 vaccine and monoclonal antibody, as this phenomenon is not well documented. Although there are multiple case reports and series suggesting the COVID-19 vaccine may induce systemic lupus erythematosus, there remains no discussion on the self-limiting diagnosis of DIL potentially linked to the vaccine and monoclonal antibody infusion.[1-4] We hope this paper raises awareness, fosters discussion, and encourages further research on this possible phenomenon. Our goal in reporting this case was to help physicians and patients gain a deeper understanding of this remarkable and lifesaving vaccine technology. Thank you once again for your valuable feedback.

REFERENCES

[1] Lemoine C, Padilla C, Krampe N, et al. Systemic lupus erythematous after Pfizer COVID-19 vaccine: A case report. Clin Rheumatol 2022; 41(5):1597-1601. PMID: 35294664.

[2] Voisin O, Priollet P. Systemic lupus induced by messenger RNA vaccination. Mayo Clin Proc 2022; 97(7):1398-1399. PMID: 35787868.

[3] Shah S, Danda D, Kavadichanda C, Das S, Adarsh MB, Negi VS. Autoimmune and rheumatic musculoskeletal diseases as a consequence of SARS-CoV-2 infection and its treatment. Rheumatol Int 2020; 40(10):1539-1554. PMID: 32666137.

[4] Peng K, Li X, Yang D, et al. Risk of autoimmune diseases following COVID-19 and the potential protective effect from vaccination: A population-based cohort study. EClinicalMedicine 2023; 63:102154. PMID: 37637754.