

Worsening of Lethargy post SARS-CoV-2 vaccination in a patient with ME/CFS.

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Introduction

Since the SARS-CoV-2 (severe acute respiratory syndrome coronavirus2) vaccination started there have been multiple reports of different off target adverse effects related to the vaccination, such as myocarditis, immune mediated thrombosis, thrombocytopenia and allergic reactions. W Murphy and Dan Longo in the NEJM November 2021 reported these adverse effects associated with Anti-idiotypic antibodies (Ab2) in SARS-CoV-2 vaccination. The pathologic cascade of Ab2 is described in several ways as the antibodies can bind to the protective normal antibodies (Ab1) resulting in immune complex formation and clearance thus impairing Ab1 efficacy. Another action of the Ab2 could be inhibiting normal ligands affecting interaction with angiotensin converting enzyme 2 (ACE2) receptors or stimulating the ACE2 receptor and downregulating the ACE2 function. There is also a description of complement-mediated and immune cell attack on ACE2 expressing cells (1). The case reported in this manuscript is related to a severe deterioration in a male with previous diagnose of ME/CFS with worsening lethargy and cognitive skills after SARS-CoV-2 vaccination. The outstanding clinical improvement after starting oral Colchicine is the reason for this paper.

Case Report

A 46-year-old male with a previous history of Sarcoidosis and Haemochromatosis had ME/CFS since 2016. He was followed up at Noosa Hospital clinic related to his ME/CFS. His general symptoms related to this condition were under control and he was able to work and study at the University. After the second dose of his SARS- CoV-2 (Pfiser –BioNTech COVID-19) vaccination in August 2021 his general condition deteriorated. During September—October 2021 his cognitive skills declined and he had to stop his university studies. The patient also stopped driving his car because of lethargy and could not do any sport recreational activity. Because of ME/CFS he was on treatment with multivitamins and low dose Naltrexone and Spironolactone before vaccination. After the ME/CFS clinical deterioration the decision was to start Colchicine 0.5 mg a day (November 2021). After four weeks of Colchicine plus his previous medication, his level of energy and cognitive skills recovered to pre vaccination status.

Discussion

The immunologic cascade after SARS-CoV-2 vaccination triggered by Ab2 ended in activation of pyrin domain containing protein3 (NLRP3 Inflammasome). This is the pattern of activation for interleukin (IL-1beta). This may determine a general increase in the systemic and microglia inflammation as described in ME/CFS. The clinical manifestation in the present case was worsening in the symptoms of the ME/CFS. The patient was already on Spironolactone targeting the increase on number of macrophages ACE2 receptors as immune modulation. An anti-inflammatory synergy between Colchicine and Spironolactone is currently the focus of research in atherosclerosis. Colchicine has a direct effect on phagocytes leading to inflammasome inhibition and impaired production of IL-1 beta.

Conclusion

The Colchicine had a beneficial effect in recovering this patient from an exacerbation of his ME/CFS induced by SARS-CoV 2 vaccination.

Reference

- 1) Murphy J, Longo D. A Possible Role for Anti-Idiotypes Antibodies in SARS-CoV-2 infection and vaccination N Engl J Med November 24,2021
- 2) Tardif J-C, Kouz S, Waters DD, et al. Efficacy and safety of low-dose colchicine after myocardial infarction. N Engl J Med 2019;381: 2497-2505