ISSN: 2634 - 680X

Journal of Clinical Case Studies Reviews & Reports

SCIENTIFIC Research and Community

Case Report

Open Access

Post-Traumatic Stress Disorder after Cardiomyopathy as an Adverse Effect of BNT162b2 mRNA Vaccine in Young Male

Imren KURT*, Suleyman DONMEZLER, Aybegum UYSAL, Kubra DIKICI and Oya GUCLU

Basaksehir Cam and Sakura City Hospital, Psychiatry

ABSTRACT

A 19-year old man with no prior psychiatric history demonstrated psychiatric disorders like depression, anxiety, and sleep-wake disorder after the BNT162b2 mRNA vaccine and staying at ICU because of myocarditis related to the BNT162b2 mRNA vaccine. Based on the characteristic symptoms, a clinical diagnosis of PTSD was made. His symptoms were relieved with 20 mg/day of fluoxetine per oral (p.o.) treatment. BNT162b2 mRNA vaccine may have rare but severe indirect psychiatric side effects. According to that, an enlarged examination including vaccine history in our routine clinical psychiatric evaluation is important.

***Corresponding author**

Imren KURT, Basaksehir Cam and Sakura City Hospital, Psychiatry, Brazil. E-mail: iimrenkurt@gmail.com

Received: February 09, 2022; **Accepted:** February 17, 2022; **Published:** February 25, 2022

Keywords: COVID-19 Vaccines, Post-Traumatic Stress Disorders, Fluoxetine

Introduction

COVID-19 is a pandemic disease that originated in Wuhan, China, and was caused by an enveloped positive-stranded RNA virus. It presents mild to moderate respiratory symptoms and may lead to severe acute respiratory syndrome and multiorgan failure. COVID-19 survivors presented a high prevalence of psychiatric sequelae like post-traumatic stress disorder (PTSD), major depression, and anxiety [1]. Most of them had a history of Intensive Care Unit (ICU) stay and being treated in ICU provokes significant symptoms of anxiety, depression, or PTSD [2].

Within months after the first case of SARS-CoV-2 infection emerged, an mRNA vaccine called BNT162b2 Was developed to reduce COVID-19 incidence and severity effectively [3]. The Food and Drug Administration (FDA) issued Emergency Use Administration (EUA) for the vaccine and the short and long-term side-effects were not well known. Local and systemic reactions, including pain at the injection site, ipsilateral axillary lymph node enlargement, fever, fatigue, and headache are common side effects. Myocarditis has been seen as an uncommon complication of the vaccine, especially in young adults and adolescent males. Myocarditis/pericarditis incidence is found to be ≈12.6 among the population [4]. Myocarditis can cause subclinical disease up to fatigue and may present with chest pain, heart failure, cardiogenic shock, arrhythmias, and sudden death. This case is about a patient who had psychiatric disorders like depression, anxiety, and sleep-wake disorder after the BNT162b2 mRNA vaccine and staying at ICU because of myocarditis related to the BNT162b2 mRNA vaccine.

Case Presentation

A previously well 19-year old male patient with no prior psychiatric history presented to the emergency department with chest pain, palpitation, and sweating 12 days after his second BNT162b2 mRNA vaccine dose. He had a history of COVID-19 exposure 4 months before but he had recovered from the disease without using any medication. The evaluation included no ECG changes and elevated troponin T levels (58,2 ng/L, the normal range for this laboratory test: <14). Complete blood count (CBC) and acute phase reactants (APR) values were not abnormal. Echocardiogram was normal (LVEF %65). He was transferred to the ICU with the suspicion of myocarditis. He was treated with metoprolol, ramipril, acetylsalicylic acid, and colchicine. After 3 days, with relief of symptoms and normalized troponin T levels, he got discharged from the hospital.

Forty days after his discharge from ICU, he was admitted to the psychiatric outpatient clinic with anxiety, insomnia, and irritability. He also defined that he was experiencing flashbacks of his ICU memories and in the meantime, he expressed some somatic symptoms. He had no suicidal or homicidal ideation. He didn't define any psychotic symptoms. As reported by his family, after his discharge from ICU, he became impatient and nervous. According to the mental state examination at first admission, his appearance was neat, eye contact was appropriate, he had a normal motor activity, speech rate was slow and speech rhythm was monotone, the content was impoverished, the mood was depressed, affect was anxious, thoughts consisted of worries and ruminations, orientation and attention were normal, he had a good insight. Neurological examination was normal. His appetite was good and he didn't lose weight during or after the ICU hospitalization.

Beck Depression Inventory (BDI) score was 28 (moderate depression), Beck Anxiety Inventory (BAI) score was 27 (severe), PTSD Checklist 5 (PCL-5) score was 44/80 (re-experiencing 10/20, avoidance 4/8, negative alterations in cognition and mood 14/28, hyper-arousal 16/24).

20 mg/day of fluoxetine per oral (p.o.) treatment was initiated for the management of depressive and anxious symptoms. At the

3rd week of fluoxetine treatment, his symptoms were relieved. The BDI score decreased to 18 (mild depression), the BAI score decreased to 23 (mild), the PCL-5 score decreased to 29/80 (re-experiencing 6/10, avoidance ⅜, negative alterations in cognition and mood 10/28, hyper-arousal 10/24).

Discussion

We aimed to present a patient that was previously known to be healthy but had psychiatric disorders like depression, anxiety, and sleep-wake disorder after the BNT162b2 mRNA vaccine and staying at ICU because of myocarditis related to the BNT162b2 mRNA vaccine. In this particular case, we see that the patient has a 3 day ICU stay suffering from myocarditis. It is a fact that PTSD incidence increases post-ICU discharge [5].

Cognitive Behavioral Therapy (CBT) is a type of psychotherapy that has a high level of evidence for PTSD treatment. But in our clinical practice, given the outpatient clinic conditions, it is difficult to manage psychotherapy sessions. Therefore we initiated fluoxetine which is known as an anti-inflammatory therapy in SARS-CoV-2 infection [6]. After 3 weeks of fluoxetine treatment, we observed that the symptoms were relieved.

We considered the case as PTSD after ICU stay and arranged treatment. Nevertheless, the BNT162b2 mRNA vaccine may have rare but severe indirect psychiatric side effects [7]. For this reason, we suggest an enlarged examination including vaccine history in our routine clinical psychiatric evaluation.

References

1. Mazza, M. G, Rebecca De Lorenzo, Caterina Conte, Sara Poletti, Benedetta Vai et al. (2020) Anxiety and depression in COVID-19 survivors: Role of inflammatory and clinical predictors. Brain. Behav. Immun. 89: 594-600.
2. Hatch, R, Duncan Young, Vicki Barber, John Griffiths, David A Harrison, et al. (2018) Anxiety, Depression and Post Traumatic Stress Disorder after critical illness: a UK-wide prospective cohort study. Crit. Care 22: 310.
3. Polack, F. P, Stephen J. Thomas, Nicholas Kitchin, Judith Absalon, Alejandra Gurtman, et al. (2020) Safety and Efficacy of the BNT162b2 mRNA Covid-19 Vaccine. N. Engl. J. Med. 383: 2603-2615.
4. Bozkurt B, Kamat I, Hotez P J (2021) Myocarditis with COVID-19 mRNA Vaccines. Circulation 144: 471-484.
5. Harvey, M. A (2012) The truth about consequences—Post-intensive care syndrome in intensive care unit survivors and their families*: Crit. Care Med. 40: 2506-2507.
6. Creeden, J. F, Ali Sajid Imami, Hunter M Eby, Cassidy Gillman, Kathryn N Becker et al. (2021) Fluoxetine as an anti-inflammatory therapy in SARS-CoV-2 infection. Biomed. Pharmacother 138: 111437.
7. Yesilkaya U H, Sen, M, Tasdemir, B. G (2021) A novel adverse effect of the BNT162b2 mRNA vaccine: First episode of acute mania with psychotic features. Brain Behav. Immun. - Health 18: 100363.