

Clozapine/tozinameran

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Generalised tonic-clonic seizure: case report

A 62-year-old man developed generalised tonic-clonic seizure during treatment with clozapine for treatment-resistant schizophrenia (TRS). Additionally, he developed fever following vaccination with tozinameran, which also contributed towards occurrence of generalised tonic-clonic seizure [*not all dosages stated; routes not stated*].

The man, who had various comorbidities including TRS, was a former smoker. He had been receiving clozapine 400mg daily for TRS along with other medications. He was vaccinated with the first dose of tozinameran [Pfizer-BioNTech COVID-19 vaccine] in January 2021. After 72h of vaccination, he developed a witnessed generalised tonic-clonic seizure, which lasted for 20 minutes. He had a fever of 104.5°F and he was given midazolam by emergency medical services. He was immediately transferred to an emergency department (ED). He was afebrile with normal blood pressure, when presented to ED and was then admitted to neuro ICU for further assessment. An extensive diagnostic examination was carried out including blood culture, urinalysis, chest x-ray, cerebrospinal fluid analysis, which revealed no systemic infection. Brain MRI showed FLAIR hyperintensity and mildly restricted diffusion in the left hippocampus consistent with the postictal state. Long-term monitoring EEG showed nonspecific diffuse slowing without any epileptic discharges or seizures. Urine toxicology testing was negative except midazolam. He also denied any recent changes in the medication or smoking habit. At the time of hospitalisation, his home medications were continued and his serum clozapine and norclozapine levels were 274 ng/mL and 247 ng/mL on second day of admission after missing a dose on day 1 of admission.

The man was treated with valproate semisodium [divalproex sodium]. As a preparation for the second dose of tozinameran, he was prophylactically prescribed with paracetamol [acetaminophen] until 7 days post-vaccination. He received his second dose of tozinameran in February 2021 with no post-vaccination fever or seizure. His serum levels of clozapine and norclozapine were 400 and 218 ng/mL, respectively. It was determined that, he experienced tonic-clonic seizure due to following risk factors: his age, clozapine (a seizure-threshold-lowering drug)-administration and post-vaccination fever.

Makhlouf AT, et al. A Seizure After COVID-19 Vaccination in a Patient on Clozapine. *Journal of Clinical Psychopharmacology* 41: 689-690, No. 6, Nov-Dec 2021. Available from: URL: <http://doi.org/10.1097/JCP.0000000000001488>

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