Inactivated SARS-CoV2 vaccine associated Guillain-Barré Syndrome and pre-existing Type 2 Diabetes Mellitus with neuropathy: A Case Report

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Abstract

Guillain-Barré syndrome (GBS) is an autoimmune polyradiculopathy that is sudden in onset and frequently severe if not promptly recognized and treated. It may be related to recent infections and vaccinations. Since the advent of the pandemic, no sufficient studies have concluded its significant association with COVID-19 vaccines. We report a case of a 52-year-old Filipino female, previously diagnosed of Type 2 Diabetes Mellitus with neuropathy who was admitted with persistent and progressive numbness, pain, and tingling sensations in her distal extremities one week after administration of inactivated SARS-CoV2 (Sinovac-CoronaVac) vaccine. Despite symptomatic treatment and control of blood sugar, she later complained of impaired light touch, pain, and temperature sensation, new onset symmetric ascending motor weakness, CN VII palsy, and areflexia. Our clinical suspicion was GBS in the context of recent vaccination and preexisting Type 2 DM with neuropathy. Brain and spine imaging tests were unremarkable. The test for SARS-CoV2 was negative. In the cerebrospinal fluid analysis, characteristic albuminocytologic dissociation was found. The EMG-NCV studies revealed diffuse, symmetric sensorimotor polyneuropathy, mixed demyelination and axonopathy with signs of acute and chronic denervation, typical of GBS and Type 2 DM with neuropathy respectively. On Brighton criteria: Level 1 of diagnostic certainty. We started early interventions such as five-day course of IV Immunoglobulin 0.4/kg/day, insulin doses given intermittently based on monitored blood glucose levels, rehabilitation therapy, and supportive care. The patient's condition improved thereafter. No further progression of motor paralysis, return of sensation, and no dysautonomia occurred. With appropriate diagnosis and treatment, life-threatening complications can be prevented.

Image



FIGURE 1. Pre-administration of IVIg

FIGURE 2. Post-administration of IVIg

Recent Publications

1. Food and Drug Administration (2022). Reports of Suspected Adverse Reaction to COVID-19 Vaccines. Department of Health, Philippines. 10-11
2. Wilson BM, Aguirre AIII (2022). Guillain-Barré Syndrome Post-COVID 19 Vaccination with Sinovac CoronaVac in a 59-Year-Old Male: First Reported Case in the Philippines. J Infect Dis Epidemiol 8:265. doi.org/10.23937/2474-3658/1510265
3. Fakhari MS, Poorsaadat L, Mahmoodiyeh B (2022). Guillain– Barré syndrome following COVID- 19 vaccine: A case report. Clin Case Rep. 10:e06451. doi: 10.1002/ccr3.6451
4. Kasper DL et. al. (2021). Harrison's principles of internal medicine 21st edition, Guillain-Barré Syndrome and Other Immune-Mediated Neuropathies. New York: McGraw-Hill. 447:3501-3508.
5. Wajih ullah M, Qaseem A, Amray A (2018) Post Vaccination Guillain Barre Syndrome: A Case Report. Cureus 10(4): e2511. DOI 10.7759/cureus.2511

Photograph



Biography

Dr. Marie Rosealie Tanguilan studied Pharmacy at Saint Paul University Philippines, graduated with Latin honors, and awarded as outstanding by the Philippine Association of Colleges of Pharmacy in 2014. She then pursued Medicine and received her MD degree in 2019 at the same institution. After one-year postdoctoral internship, the passion for continuous learning and care for patients has driven her to apply as an Internal Medicine resident at St. Paul Hospital of Tuguegarao, Inc. She currently holds the position of Chief Resident. Her accomplishments during residency include being awarded 2nd place during the Dr. Adrian C. Pena PCP Medical Quiz Contest and was one of the presenters in a Clinicopathological case (CPC) conference contest. Her case report paper was also accepted for presentation at the Philippine College of Physicians 53rd Annual Congress Research contest.

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Notes/Comments: The patient has given full consent to use her photos for presentation purposes.