Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

CHEST 2021
ANNUAL MEETING | OCTOBER 17-20

Critical Care

TOPIC: Critical Care
TYPE: Medical Student/Resident Case Reports

GUILLAIN-BARRÉ SYNDROME, OR ACUTE ON CHRONIC INFLAMMATORY DEMYELINATING POLYNEUROPATHY, FOLLOWING MODERNA COVID-19 VACCINE

ABDELRHMAN ABO-ZED AND ANTHONY PINEVICH

INTRODUCTION: Guillain-Barré syndrome (GBS) is an immune-mediated acute inflammatory demyelinating polyneuropathy (AIDP). Since December 2020, three vaccines have been approved in the United States for the prevention of COVID-19. Other than a single case report regarding GBS developing shortly after the Moderna COVID-19 vaccine, there have been no additional reports which describe GBS in the setting of recent COVID-19 vaccine. Here, we present a case of a patient who had a prior episode of GBS and subsequent evolution into Chronic Inflammatory Demyelinating Polyneuropathy (CIDP), who developed GBS/AIDP within twenty-one days after receipt of the Moderna vaccine.

CASE PRESENTATION: An 87-year-old male with medical history of coronary artery disease requiring coronary artery bypass graft, coronary artery stents, and a dual-chamber pacemaker for sick sinus syndrome presented with acute worsening weakness and paresthesia of bilateral lower extremities. In 2017, shortly after receiving influenza vaccine, he had symptoms, laboratory, and electrophysiological features of GBS/AIDP. Thyroid function tests, hemoglobin A1c, serum protein electrophoresis, syphilis and Lyme titers were unremarkable. He had incomplete resolution of symptoms with a course of five plasma exchange treatments. One month after initial diagnosis and treatment, it was determined that his condition had evolved to CIDP, for which he received ongoing plasmapheresis on an every two week basis, with symptom improvement but not normalization. In March 2021, he had onset over twelve hours of significantly worse weakness and numbness in his legs, similar to his prior AIDP/GBS. It was noted that he had received a Moderna COVID -19 vaccine twenty-one days prior. His physical exam was notable for normal strength in the upper extremities, with diminished but present reflexes. Lower extremity exam revealed bilateral weakness in the hip, distal extremities, and feet. Ankle and knee reflexes were absent. Cerebrospinal fluid contained elevated protein. Electromyography revealed F-waves in the lower extremities. The patient was treated with a more intensive course of plasmapheresis consisting four treatments over ten days. His strength and sensation improved to baseline over this period.

DISCUSSION: We describe a patient with a history of AIDP/GBS, evolving into CIDP, who developed exacerbated CIDP (or AIDP) coinciding with receipt of the Moderna COVID-19 vaccine.

CONCLUSIONS: GBS/AIDP, or exacerbation of CIDP, is herein described to have coincided with the recent Moderna COVID-19 vaccine. More studies are needed to determine whether our patient's clinical deterioration was merely coincident with receipt of vaccine or whether a cause-and-effect relationship exists.

REFERENCE #1: K; K. Guillain-Barré Syndrome. Advances in experimental medicine and biology. Accessed April 29, 2021.

REFERENCE #2: DR; VSKMCC. Guillain-Barré syndrome: an update. Journal of clinical neuroscience : official journal of the Neurosurgical Society of Australasia. Accessed April 29, 2021.

REFERENCE #3: Rodríguez Y;Novelli L;Rojas M;De Santis M;Acosta-Ampudia Y;Monsalve DM;Ramírez-Santana C;Costanzo A;Ridgway WM;Ansari AA;Gershwin ME;Selmi C;Anaya JM; Autoinflammatory and autoimmune conditions at the crossroad of COVID-19. Journal of autoimmunity.

DISCLOSURES: No relevant relationships by Abdelrhman Abo-zed, source=Web Response

No relevant relationships by anthony pinevich, source=Web Response

DOI: https://doi.org/10.1016/j.chest.2021.07.838
Copyright © 2021 American College of Chest Physicians. Published by Elsevier Inc. All rights reserved.