A Case of Myasthenic Crisis following COVID-19 Vaccine
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Introduction
❖ Myasthenic crisis (MC) can be precipitated by many factors like infection, surgery, medications, and some vaccines, including HPV.
❖ A key question during the COVID-19 pandemic is whether vaccines against SARS-CoV-2 can precipitate MC.

Case Presentation
❖ 72-year-old woman without a known history of Myasthenia Gravis (MG) presented with profound fatigue and shortness of breath for 1 week.
❖ She had received her second Moderna COVID-19 vaccine dose 1.5 weeks ago.
❖ Physical Exam: rapid shallow respirations, reduced proximal muscle strength, and neck flexor weakness.
❖ She developed bilateral ptosis, which improved after 2 minutes of local cooling with ice-pack.
❖ Respiratory status deteriorated with reduced Negative Inspiratory Force and Vital Capacity, and she was hence electively intubated for an impending respiratory crisis.

Diagnostic Work-up
❖ Evaluation included ruling out acute coronary syndrome with negative EKG, and serial troponin; COVID-19 test and broad infectious workup were negative.
❖ Computed Tomography Angiogram notable for lung hypoinflation and peridiaphragmatic atelectasis; negative for pulmonary embolism or thymoma.

Further Hospital Course
❖ Plasma exchange and pyridostigmine initiated for a high suspicion of MG.
❖ Serology positive for MG as shown in Table.
❖ Then, she was started on prednisone and mycophenolate mofetil.
❖ She improved and was ultimately extubated and sent for rehabilitation.
❖ In the absence of any other identifiable trigger, it was concluded that her MC was precipitated by recent COVID-19 vaccination.

Discussion
❖ This patient experienced Myasthenic crisis as an initial presentation of MG shortly after completing her COVID-19 vaccination series.
❖ This is a rarely reported event to date. Additional case reporting will help determine the incidence rate of MC post COVID-19 vaccination.

Table: Laboratory Test Results

<table>
<thead>
<tr>
<th>LAB TEST</th>
<th>PATIENT VALUE</th>
<th>REFERENCE VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetylcholine Receptor Binding Ab</td>
<td>33.50 (positive)</td>
<td>Neg &lt;=0.3 nmol/L</td>
</tr>
<tr>
<td>Acetylcholine Receptor Blocking Ab</td>
<td>29 (positive)</td>
<td>&lt;15% inhibition</td>
</tr>
<tr>
<td>Acetylcholine Receptor Modulating Ab</td>
<td>90 (positive)</td>
<td>&lt;32% inhibition</td>
</tr>
<tr>
<td>Anti-Striped Muscle Antibody</td>
<td>Positive</td>
<td>-</td>
</tr>
</tbody>
</table>

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