Atypical Presentation of COVID-19 causing Rhabdomyolysis: a case report

Gulmohar Singh-Kucukarslan
Danielle Heidemann

Follow this and additional works at: https://scholarlycommons.henryford.com/merf2020caserpt
Atypical Presentation of COVID-19 causing Rhabdomyolysis: a case report

Gulmohar Singh-Kucukarslan, MD; Danielle Heidemann, MD.
Department of Internal Medicine
Henry Ford Health System, Detroit, Michigan

Introduction
- COVID-19 is a novel virus that has led to a pandemic in a short period of time.
- Information is limited regarding all aspects of the virus such as clinical manifestations.
- Overall it appears that the majority of patients present with respiratory and gastrointestinal symptoms.
- This case report illustrates a unique presentation of COVID-19.

Case Report
- An otherwise healthy 42 year old presented with subacute lower back pain and thigh pain.

Pertinent history and exam findings:
- No trauma or muscle compression, exertional exercise, prolonged immobilization, hyperthermia, or lightening injury.
- No history of medication use or dietary supplements, or illicit drug use.
- DTE field technician.
- No significant past medical, family, or surgical history.
- Bilobar crackles heard on exam.

Pertinent diagnostic testing:
- Initial CPK 4,100 and creatinine 2.99 (baseline 1).
- Lumbar x-ray negative for acute process.
- Influenza A/B negative.
- Urine Drug Screen negative.
- Urinalysis with 100 protein and large blood.
- Hepatitis screen negative.
- No hypokalemia noted.
- Carboxyhemoglobin and lactic acid within normal limits.
- LDH 14,007.
- Repeat CPK 313,000 and creatinine 4.11.
- Chest x-ray revealed multifocal opacities.
- COVID-19 positive.

Treatment:
- Given lack of respiratory symptoms, hydroxychloroquine treatment was not given.
- He was treated with intravenous fluid.
- Discharged home once creatinine began to downtrend from peak of 9.8 and CPK was below 5,000.

Results

<table>
<thead>
<tr>
<th>Lab</th>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
<th>Day 5</th>
<th>Day 6</th>
<th>Day 7</th>
<th>Day 8</th>
<th>Day 9</th>
<th>Day 13 post-discharge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creatinine</td>
<td>4.11</td>
<td>6.87</td>
<td>8.02</td>
<td>9.68</td>
<td>9.66</td>
<td>9.8</td>
<td>8.99</td>
<td>8.72</td>
<td>8.22</td>
<td>1.85</td>
</tr>
<tr>
<td>CPK, Total</td>
<td>4,100</td>
<td>313,700</td>
<td>215,360</td>
<td>101,002</td>
<td>53,966</td>
<td>23,463</td>
<td>13,606</td>
<td>8,309</td>
<td>4,297</td>
<td>192</td>
</tr>
<tr>
<td>LDH, Total</td>
<td>14,007</td>
<td>8.569</td>
<td>2,640</td>
<td>1,210</td>
<td>704</td>
<td>492</td>
<td>523</td>
<td>386</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Ferritin</td>
<td>536</td>
<td>539</td>
<td>482</td>
<td>478</td>
<td>449</td>
<td>450</td>
<td>545</td>
<td>416</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>AST</td>
<td>1,024</td>
<td>1,011</td>
<td>660</td>
<td>371</td>
<td>210</td>
<td>148</td>
<td>143</td>
<td>93</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>ALT</td>
<td>273</td>
<td>263</td>
<td>233</td>
<td>203</td>
<td>175</td>
<td>171</td>
<td>188</td>
<td>180</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>CRP</td>
<td>11.4</td>
<td>10.9</td>
<td>9.8</td>
<td>7.8</td>
<td>4.8</td>
<td>3.0</td>
<td>2.4</td>
<td>1.6</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>D-Dimer</td>
<td>3.73</td>
<td>6.94</td>
<td>12.93</td>
<td>-</td>
<td>-</td>
<td>14.72</td>
<td>1.79</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 1. Lab values for hospitalization days 1-9 and day 13 post-discharge.

Discussion
- Since the first case of COVID-19 was detected in December 2019, it has spread to pandemic level.
- Generally, patients present with fever, cough, dyspnea and diarrhea that results in a viral pneumonia (1).
- This case report is unique in that the patient had no signs or symptoms of classic COVID-19 infection.
- The patient had no other potential cause for his rhabdomyolysis.
- Chest x-ray in COVID-19 patients generally have bilateral or unilateral opacities (2).
- There has only been one case report of a COVID-19 patient diagnosed with rhabdomyolysis. That patient presented with typical respiratory symptoms and developed rhabdomyolysis late in their clinical course (3).
- There have been case reports of Influenza inducing rhabdomyolysis. Particularly during the novel virulent H1N1 Influenza A pandemic in 2009. However these patients typically presented with respiratory symptoms. (4).

Conclusion
- This case illustrates an atypical presentation of COVID-19.
- In the setting of a global pandemic of a novel disease, it demonstrates the necessity of keeping an open differential and understanding that there may be many different clinical manifestations of a virus that is still poorly understood.

References