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## Original Article

## COVID-19 vaccine induced rhabdomyolysis: Case report with literature review



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## 1. Introduction

Coronavirus Disease 2019 (COVID-19) caused a significant impact on the health, economic and political systems in 2020, and by the end of the year, hope was born with the introduction of COVID-19 vaccines aiming at ending the pandemic. Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), the causative agent of COVID-19, is an enveloped, positive-sense, single-stranded RNA virus with viral spike glycoproteins, and the studied mechanism has contributed significantly to vaccination efforts and public health initiatives [1]. The coronavirus spike protein has been shown to mediate membrane fusion via the binding of cellular receptors

[2]. Herein we present the first case of COVID-19 vaccine-induced rhabdomyolysis to help clinicians easily identify such a problem in newly vaccinated patients.

## 1.1. Case presentation

We present a 21-year-old male patient with a past medical history of asthma who presented to the emergency department for progressively worsening pain and swelling in the lower back for one day after his first Pfizer/BioNTech COVID-19 vaccine injection. He described it as a 5 to 10 out of 10 sharp pain located at his mid to lower back with radiation to his left lateral thigh. The pain worsened with body movement. The patient tried over-the-counter pain medication with limited relief. He also noticed a darkened urine color before he came to the hospital.

The patient did not use any medication regularly. He denied excessive exercise, heavy weightlifting or body trauma after vaccination. He had no family history of autoimmune or musculoskeletal diseases, and surgical history was only significant for an uncomplicated appendectomy. Patient endorsed social marijuana use but denied other drug, alcohol, or tobacco use.

Transient elevated blood pressure was noticed at the beginning

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