An Interesting Occurrence Of Bell's Palsy With Atypical Presentation After Contracting COVID-19 Infection

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Introduction

COVID-19 has been identified as primarily a respiratory illness, however, with its clinical manifestation of involvement with multiple organs, it is now considered a systemic illness. In particular, it also can elicit a broad spectrum of neurological symptoms. One of the proposed manifestations is Bell's Palsy, an acute idiopathic facial nerve palsy that affects the lower motor neuron. Several etiologies have been hypothesized, one that is widely accepted is the viral infection that results in inflammation of the nerve that causes unilateral facial paralysis. Here we have a patient with recent COVID infection who later presents with a unilateral facial droop along with unilateral weakness/tingling of extremities. After series of testing and imaging, he was diagnosed with Bell's Palsy.

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Case Description

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Patient is a 47-year-old male with a past medical history of alcohol and methamphetamine abuse who presented to the hospital for unresolved facial droop. Patient was seen at the emergency department with symptoms of left-sided eyelid droop and difficulty swallowing two days prior. CT head and CTA head/neck then were negative. Patient symptoms resolved and left against medical advice. However, symptoms reappeared two days later and now with right-sided facial droop along with drooling, dysphagia, and left sided extremities with weakness/tingling sensation. Of note, the daughter stated that the patient was tested positive with COVID using at-home kit about 1.5 weeks ago and had upper respiratory infection symptoms that had mostly resolved.

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Repeat CT head without contrast and MRI brain w/wo contrast were unremarkable. Transthoracic echocardiogram with bubble study showed no patent foramen ovale. He was diagnosed by a neurologist with Bell's palsy but still recommended MRI neck for unilateral tingling/weakness, which showed minimal posterior disc bulging at several cervical disc levels without central stenosis. Patient was recommended eye drop, eye patch and discharged on prednisone taper with valacyclovir and instructions to follow up with primary physician and neurologist.

- Bell's Palsy common presentation
- Asymmetrical facial muscle tone, inability to close one eye
- Asymmetrical smile, unilateral facial droop with forehead sparing

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Discussion & Conclusion

Bell's Palsy presents with a sudden onset of unilateral facial weakness. The hallmark to distinguish it from central pathology in the upper motor neuron from peripheral lesion of facial nerve in lower motor neuron is the involvement of the forehead. However, because this patient also had unusual presentation of switching sides of facial droop along unilateral weakness/throbbing of extremities, cerebral vascular accident had to be ruled out as well as other differentials such as malignancies, encephalopathy, Guillain-Barre syndrome, Lyme disease, or meningitis. The annual incidence is 15 to 20 per 100,000 individuals with up to 12% recurrence rate. Interestingly, there is a higher incidence of Bell's Palsy in those with COVID-19 and there is an increased relative risk with Bell's Palsy in those with COVID-19 in comparison to those who were vaccinated. Of note, the patient is unvaccinated.

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Fortunately, 70% of the patients have spontaneous resolution without treatment, however, corticosteroids have been shown to reduce length of illness, and the efficacy of antiviral use is still to be investigated. We present this case in hope to bring awareness to the medical society on a possible COVID-19 Infection related neurological manifestation though more studies need to be done.

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