An Unusual Presentation of Lateral Medullary Stroke in the Setting of COVID Infection

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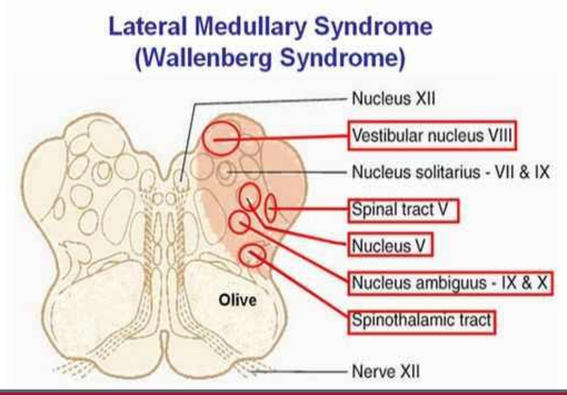
Background

- Neurologic complications in patients with COVID-19 are common and occur in approximately half of hospitalized patients
- Stroke, however, appears to be relatively infrequent in the setting of COVID-19 infection
- Potential mechanisms of ischemic stroke in COVID-19 include hypercoagulability, severe inflammation, renin-angiotensin-aldosterone system dysfunction, cardiac dysfunction, and the consequences of severe respiratory illness
- Lateral medullary infarction (Wallenberg's syndrome) is a rare condition resulting from vertebral artery or posterior inferior cerebellar artery blockage. Patients often present with vestibulocerebellar and sensory symptoms, autonomic dysfunction and bulbar muscle weakness
- We report a case of a 48-year-old man who was diagnosed with subacute stroke in the left lateral medulla, found to be COVID positive



Case Presentation

48-year-old Hispanic male with a past medical history of type 2 diabetes mellitus presented with a five-day history of difficulty swallowing solids and liquids

On arrival, Vitals: T 37.0 C, BP 146/94, HR 99, RR 18, O2 sat 97% on room air. His physical exam was only significant for dry oral mucosa and skin. His neurological exam was otherwise intact, without any focal neurological deficits.

Initial Labs

Lab	Patient's Value	Reference Range
Ferritin	302ng/mL	20-250ng/mL
CRP	24mg/L	<10mg/L
ESR	47mm/hr	0-22mm/hr
Fibrinogen	486mg/dL	200-400mg/dL
D-dimer	<150ng/mL	<250ng/mL
HbA1c	>14%	<5.7%
Beta-Hydroxybutyrate	7.96mmol/L	<0.4mmol/L
Covid-19 PCR	Positive	Negative

Case Presentation

Computed Tomography (CT) Scan of Neck and Chest
No evidence for food impaction or esophageal dilation

Modified Barium Swallow
Inability to swallow thick and thin liquids

Upper Endoscopy
Unremarkable

Bedside Flexible Fiberoptic Laryngoscopy
Pooling of thick yellow secretions in the vallecular, but otherwise normal

Hospital Course

- A percutaneous endoscopic gastrostomy (PEG) tube was placed for dysphagia
- On day three, a thorough neurological examination revealed mild ataxia
- MRI of the brain (Image 1) showed a brainstem lesion involving the left dorsolateral medulla, consistent with Wallenberg's Syndrome
- CT angiography of the head and neck (Image 2) revealed a dissection in the left vertebral artery along with evidence of previous dissections in right common carotid artery and left subclavian artery
- The patient ultimately regained ability to swallow pureed foods and PEG tube was removed
- He was discharged home on aspirin daily

MRI Brain with IV Contrast

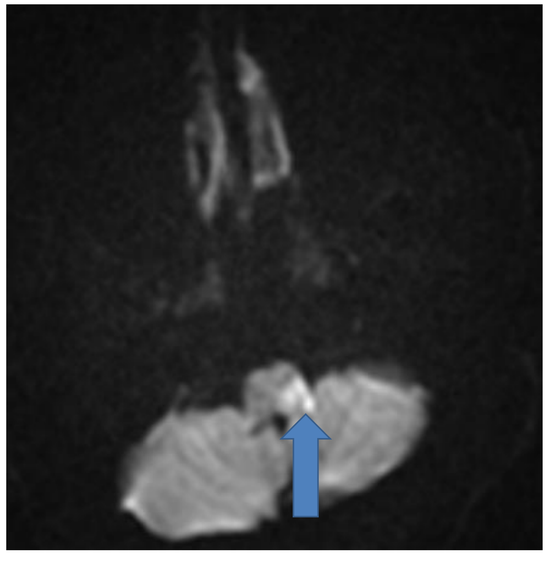


Image 1. Brainstem lesion involving the left dorsolateral medulla (blue arrow)

CTA Head & Neck

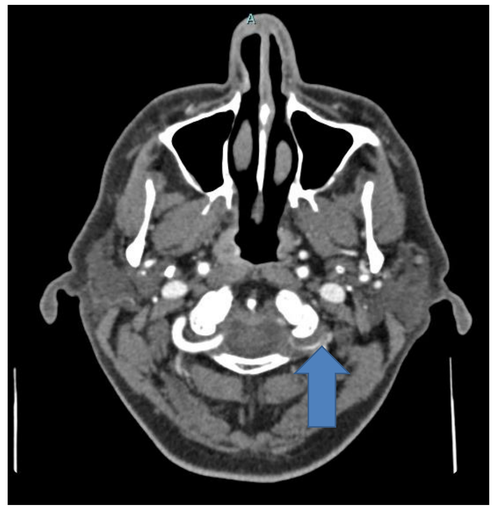


Image 2. Absent filling in left vertebral artery consistent with dissection (blue arrow)

Discussion/Conclusion

- This case highlights a lateral medullary stroke in the setting of COVID-19 infection
- Wallenberg's Syndrome is a rare neurological disorder, and diagnosis is often missed by non-neurologists
- The patient had risk factors for stroke, including diabetes and previous arterial dissections
- It's likely that COVID-19 infection lowered this patient's threshold for stroke
- The occurrence of strokes is generally uncommon in the setting of COVID-19 infection; however, when strokes do occur, they may be more severe than strokes without COVID-19
- It is thus essential for clinicians to be aware of the occurrence of strokes in COVID patients so that prompt management can be initiated

References

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