Post-COVID 19 Achalasia: A New Etiology

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BACKGROUND

Achalasia is an esophageal motility disorder characterized by loss of myenteric plexus neurons in the distal esophagus. The underlying etiology is inflammation and degeneration of inhibitory neurons in the esophageal wall, leading to aperistalsis and failure of LES relaxation. Most patients have primary, or idiopathic, achalasia. A subset of patients develop secondary achalasia related to viral infection or esophageal carcinoma. A new correlation between COVID-19 and achalasia has been described in recent case reports.

CASE PRESENTATION

A 45-year-old male with no additional risk factors or prior history of dysphagia presented with COVID-19 infection and persistent dysphagia for one year that failed to resolve. Esophageal manometry revealed an LES pressure of 41 mmHg and peristalsis of 0 at the lower esophageal body. He underwent a robot-assisted Heller myotomy with Dor fundoplication. He recovered appropriately without postoperative complications.

DISCUSSION

The prevalence of achalasia is 10 cases per 100,000 and incidence is 1 new case per 100,000. Patients present with dysphagia and regurgitation, and esophageal manometry reveals lack of peristalsis at the lower esophagus body and elevated LES pressure. Prior studies have described the SARS-COV-2 virus entering host cells via the angiotensin-converting enzyme 2 (ACE2) receptor, causing a cytokine inflammatory response. ACE2 receptors are found on various cell types including oral, nasal, pulmonary, renal, enterocytes and therefore, COVID-19 manifests within multiple organ systems, with gastrointestinal symptoms being the most common. This response leads to gradual degradation of ganglion cells as a likely mechanism for post-COVID achalasia. A higher incidence of achalasia is reported in 2020-2021 compared to prior years, with up to 66% of newly diagnosed patients reporting prior COVID-19 infection.

CONCLUSION

This case provides a unique etiology for degeneration of ganglion cells in the lower esophageal sphincter precipitating acute-onset achalasia. The increased incidence of achalasia in the years following the COVID-19 pandemic should be further evaluated. This case adds to the growing body of evidence supporting COVID-19 as an inciting etiology of acute-onset achalasia.

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