

# **A Stomach Bug? Not What You May Think: A Case of Post-Viral Gastroparesis Caused by SARS-CoV-2**

## **Abstract**

### **Introduction**

Gastroparesis has a wide range of etiologies including diabetes, medications, post-surgical, post-viral and idiopathic.<sup>1</sup> SARS-CoV-2 can cause gastrointestinal symptoms which typically resolve within the first few weeks of infection.<sup>2</sup> However, some sequelae persist beyond the initial infectious period.

### **Case Description**

A 56-year-old female with Type II Diabetes Mellitus presented with a syncopal episode and a two-month history of intractable nausea, vomiting, oral intolerance, and unintentional 20lbs weight loss following COVID-19 infection. She had no prior gastrointestinal problems. On exam, she had orthostatic hypotension and appeared debilitated with dry mucous membranes. Initial laboratories showed electrolytes abnormalities and a hemoglobin A1c of 7.4.

She was treated with intravenous fluids, electrolyte repletion, and ondansetron, but her nausea and vomiting persisted. CT abdomen and EGD ruled out mechanical obstruction. Gastric emptying was positive with a half-emptying time of 114 minutes. Her symptoms fully resolved over time following a short course of metoclopramide and a brief period of supportive measures.

The patient does have a history of diabetes, a known etiology for gastroparesis. However, her symptoms started and continued for several months following COVID-19 infection, despite adequate glycemic control as evidenced by her hemoglobin A1c. Her gastroparesis was thus attributed to a SARS-CoV2.

### **Discussion**

Though post-viral gastroparesis is a known subset of idiopathic gastroparesis, few cases of post-COVID gastroparesis have been reported.<sup>3</sup> Most cases represent an exacerbation rather than an index event.<sup>4</sup>

Several pathophysiologic mechanisms have been hypothesized. SARS-CoV2 uses ACE-2, which is expressed in the glandular cells of gastric, duodenal and rectal epithelium to enter host cells and replicate. Studies of the previous SARS epidemic showed active replication in both the small and large intestine. Post-viral injury to the smooth muscle and interstitial cells of Cajal may also lead to delayed gastric emptying.<sup>4</sup>

Given the lack of available data to guide management specific to post-COVID gastroparesis, our patient was managed based upon existing recommendations for post-viral gastroparesis and improved with this approach.

## References:

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