COVID-19 Associated With Esophageal Hypersensitivity After Hiatal Hernia Repair and Fundoplication: A Case Report
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INTRODUCTION: Coronavirus Disease 2019 (COVID-19) is caused by infection with the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). Although COVID-19 primarily involves pulmonary symptoms, gastrointestinal (GI) symptoms can occur. Herein, we describe a patient who developed symptoms of heartburn after anti-reflux surgery without evidence of surgical complications or improvement with medications. The timing of both exposure to SARS-CoV-2 and symptom onset was helpful in making a diagnosis of COVID-19 associated esophageal hypersensitivity.

CASE DESCRIPTION/METHODS: A 41-year-old female with a history of gastroesophageal reflux disease (GERD) presented to the Emergency Department (ED) with septic arthritis of her right hand three weeks after undergoing hiatal hernia repair and Toupet fundoplication (Figure 1). She was treated with antibiotics and recovered well. One week later, she presented to the ED with new onset heartburn. Work-up was negative and she was discharged. She was later notified that she had been exposed to COVID-19 during her hospitalization for septic arthritis, tested for COVID-19, and found to be positive. Two weeks later, she reported worsening heartburn. Review of her operative report showed no complications and her symptoms were attributed to post-operative esophageal inflammation. After no improvement with anti-reflux medications, work-up with an upper GI series, an upper endoscopy, and a gastric emptying test was normal. Two months later, she reported improvement with conservative management and tested negative for COVID-19. She was diagnosed with COVID-19 associated esophageal hypersensitivity.

DISCUSSION: Esophageal hypersensitivity is defined as the perception of pain from non-painful esophageal stimuli and should be considered in patients with esophageal symptoms (heartburn, chest pain) who test negative for GERD. Through the ACE2 protein cell receptor, which allows for SARS-CoV-2 entry into cells, it is possible for SARS-CoV-2 to infect the GI tract and even the vagus nerve causing hypersensitivity leading to allodynia. The incubation period of SARS-CoV-2 infection has been estimated to be 5 days with most patients developing symptoms by 12 days from infection. Our patient’s symptoms started one week after exposure suggesting SARS-CoV-2 infection as the etiology for her heartburn. The absence of reflux on work-up, the history of exposure to COVID-19, and the time course of symptoms were considered in diagnosing SARS-CoV-2 induced esophageal hypersensitivity in our patient.