

## Gastrointestinal symptoms of 95 cases with SARS-CoV-2 infection

Lin L, Jiang X, Zhang Z, Huang S, Zhang Z et al. *Gut*. 2020;69(6):997-1001.

### Introduction:

The onset of COVID-19 is characterized by cough, fever, myalgia, fatigue, difficulty breathing, and rarely gastrointestinal (GI) symptoms. Transmission of the virus is through direct contact or via respiratory secretions. However, based on the finding of severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) ribonucleic acid (RNA) in the stools of patients with severe COVID-19, it was proposed that the virus may also cause GI infection via a fecal-oral route. The objective of this study was to investigate the impact of SARS-CoV-2 on the GI tract.

### Study design:

In this retrospective and single-center study, epidemiological, demographic, clinical, and laboratory data were analyzed for patients with SARS-CoV-2. Real-time reverse transcriptase polymerase chain reaction (PCR) was used to detect SARS-CoV-2 in the GI tract and in feces. To evaluate the cause of the GI symptoms, endoscopy was performed on a small group of patients.

### Study population:

95 patients with SARS-CoV-2 admitted to the hospital from January 17- February 15, 2020.

### Results:

Of the 95 patients analyzed, 58 (61%) had GI symptoms; of these, 75.9% were non-severe and 24.1% were severe cases of SARS-CoV-2. Further, 11 (11.6%) presented with symptoms on admission, and 47 (49.5%) developed symptoms during hospitalization. The most frequent GI symptoms were diarrhea (24.2%), anorexia (17.9%), and nausea (17.9%). Some SARS-CoV-2-positive patients (11.6%) had GI symptoms but did not have evidence of pneumonia on CT imaging.

#### **The development of GI problems during hospitalization appeared to be related to treatment.**

- 32.6% of patients developed hepatic dysfunction, evidenced by elevated bilirubin, aspartate transaminase, or alanine aminotransferase during hospitalization.
- Antibiotic treatment was associated with diarrhea ( $p=0.034$ ) and with elevated bilirubin levels ( $p=0.028$ ), but antiviral treatment was not.

#### **Fecal samples from 65 patients with and without GI symptoms were tested for SARS-CoV-2:**

- Of the 42 patients with GI symptoms, 22 patients (52.4%) tested positive.
- Of the 23 without GI symptoms, 9 patients (39.1%) tested positive.

#### **There was no correlation between the presence of SARS-CoV-2 in feces and GI symptom severity.**

Six patients with SARS-CoV-2 RNA-positive stools underwent endoscopy to evaluate the cause of the GI symptoms. Of these, 5 had no findings of ulceration or bleeding. One patient had ulceration in the esophagus, stomach, duodenum, and rectum. In terms of infection severity, virus was identified in the specimens from esophagus, stomach, duodenum and rectum of both severe cases, whereas only one in four non-severe cases had a positive specimen limited to the duodenum.

**There was no significant difference in the clinical outcomes (hospitalized, discharged, or expired) between patients with and without gastrointestinal symptoms.**

### Conclusions:

**The GI tract is affected by and may function as a transmission route for SARS-CoV-2.**

Summary prepared by Nestlé Health Science.

The complete study may be accessed online:

<http://dx.doi.org/10.1136/gutjnl-2020-321013>