



# Gastrointestinal Presentation in a Patient with COVID-19 Without Respiratory Tract Symptoms: A Case Report From Qom, Iran

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## Abstract

**Introduction:** Considering the increasing number of patients referred to gastroenterology clinics, we report a suspected case of coronavirus disease 2019 (COVID-19) with only gastrointestinal (GI) presentation in Qom, Iran.

**Case Presentation:** A 74-year-old man with epigastric pain, diarrhea and vomiting for one week was treated, based on the routine abdominal treatment protocol. Since all GI symptoms were resistant to therapy, we decided to perform laboratory assays for a more accurate diagnosis of the disease. Considering the persistence of abdominal pain and nausea, abdominal and pelvic computed tomography (CT) scans, as well as endoscopy and colonoscopy, were performed. After performing the chest CT scan, we noticed the involvement of the lungs. The patient did not have any respiratory symptoms, and at the time of his hospitalization, the COVID-19 epidemic had been reported in Iran. With the progression of the disease, he started to experience mild fever (38°C). Using a specific COVID-19 kit, he was diagnosed with COVID-19 after precise evaluations. However, without any medications, all of his symptoms subsided after 2-3 weeks.

**Conclusions:** It is important for all physicians to know that some pure GI symptoms, which are resistant to therapy, may be the only symptoms in suspected COVID-19 patients. Timely diagnosis and isolation of these patients can guarantee population to avoid the spread of this highly contagious infection.

**Keywords:** COVID-19, Gastrointestinal Disorder, CT Scan, Pneumonia, RT-PCR

## 1. Introduction

The global spread of the coronavirus disease 2019 (COVID-19), as a highly infectious disease, have been affected thousands people in all of the world (1, 2). This infection has led to the death of more people than severe acute respiratory syndrome (SARS) and the Middle East respiratory syndrome (MERS), although it has a lower fatality rate. In Iran, the ongoing COVID-19 epidemic was first reported in Qom. It is important to note that due to the COVID-19 epidemic in Iran, the number of patients, referred to our gastroenterology clinics in Shahid Beheshti Hospital, had increased by 20% (3). After the first report of this infection in Iran, all clinical evaluations, as well as treatment and clinical outcomes of patients with laboratory-confirmed COVID-19, were recorded.

Considering the increasing number of patients referred to gastroenterology clinics and reports of some therapy-resistant pure gastrointestinal (GI) symptoms, we suspected a case of COVID-19 in one of our patients. It should be mentioned that we encounter a large number of patients with only GI symptoms, whereas in this case report, we only documented one case, referred to our gastroenterology clinic. Some important questions need to be addressed promptly to determine whether pure GI symptoms appear without the incidence of respiratory disorder in confirmed COVID-19 patients. The answer to these questions may lead to the effective management of the disease before affecting and transferring of SARS-CoV-2 to health people who were in close contact with infected patients with pure GI symptoms. With this background in mind, we aimed to collect and analyze the detailed clinical fea-

tures and chest computed tomography (CT) scans of an old male patient with an only GI disorder without respiratory involvement.

## 2. Case Presentation

A 74-year-old man was referred to our gastroenterology clinic with complaints of abdominal pain, diarrhea, vomiting, and chest pain for two weeks. He did not report any coughing, dyspnea, or respiratory disorders. His medical history indicated diabetic hypertension. He also avoided smoking and drinking.

Upon admission to the hospital, he looked ill, and his vital signs were as follows: blood pressure: 110/60 mmHg; pulse rate: 79 bpm; respiratory rate: 16 bpm; and oral temperature: 38°C. The patient had a medical history of diabetes and hypertension. After one week of hospitalization, he presented with fever and sweating. For a better examination, laboratory tests were performed; the results are summarized in [Table 1](#). The CBC test revealed the increased level of WBC and the decreased level of RBC. The serum levels of alkaline phosphatase and amylase were in the normal range. Also, endoscopy and colonoscopy did not indicate any abnormalities. With regard to the increasing prevalence of laboratory-confirmed COVID pneumonia (based on conventional PCR assay and sequencing of PCR amplicons using a throat swab) and dyspnea, in addition to the results of physical examinations and laboratory tests, we performed a chest CT scan due to its high diagnostic value, high accuracy (low false-negative rate), and time efficiency (4). The chest CT scan revealed small bilateral peripheral consolidations with ground-glass opacity and a crazy paving pattern ([Figure 1](#)).

## 3. Discussion

In this case report, we described the clinical findings of an old male patient with a GI disorder, who was suspected of COVID-19. After administering medications for one week, he still showed resistance to therapy. We suspected COVID-19, as the onset of outbreak was reported in Iran at the time. For further evaluations, a biochemical assay was carried out; however, it failed to provide more data for a precise diagnosis. Due to the persistence of abdominal pain, as well as nausea resistant to therapy, pelvic and abdominal CT scans, endoscopy, and colonoscopy were performed; nevertheless, the results were in the normal range. The chest CT scan revealed pleural constipation and sub-pleural constipation on the left side of the diaphragm. The patient was isolated in a negative pressure room for two weeks, and without any medications, all of his symptoms subsided (5).

Based on the present results, we should be aware of the possibility of COVID-19 and the progression of pneumonia in patients following the emergence of pure GI symptoms; such awareness may be important in the prognosis of COVID-19 pneumonia (6). Recently, Zou et al. (7), reported that angiotensin-converting enzyme 2 (ACE2) is the main associate receptor of SARS-CoV-2 and the spike (S) protein of 2019-nCoV had a high affinity to ACE-2, which mediate the virus entrance to the target cell, causing the final infection. It has been demonstrated that ACE2 receptors can be expressed in the oral cavity and are abundantly found in epithelial cells. The overexpression of ACE2 receptors has also been indicated in the colon, intestines, and gallbladder. Therefore, with notice to this point that the viral mutations may occur during transmission, associated clinical features of SARS-CoV-2 during its spread is welcome.

According to the epidemiological findings reported by Lai et al. (8), fever was the most common symptom among adult patients (92.8%; n = 258), followed by cough (69.8%; n = 194), dyspnea (34.5%; n = 96), myalgia (27.7%; n = 77), headache (7.2%; n = 20), and diarrhea (6.1%; n = 17) (3, 8). Nevertheless, our observations were only related to a single case, whereas a larger number of patients suspected of COVID-19 are referred to our gastroenterology clinics. Therefore, we need more time to evaluate new confirmed cases of COVID-19. Precise recording of all GI symptoms and interpretation of the findings should also be addressed in new patients. Recording all clinical symptoms, as well as, GI follow-up studies in patients with the COVID-19, is not without merit and can be a great help in timely diagnosis and treatment of the disease.

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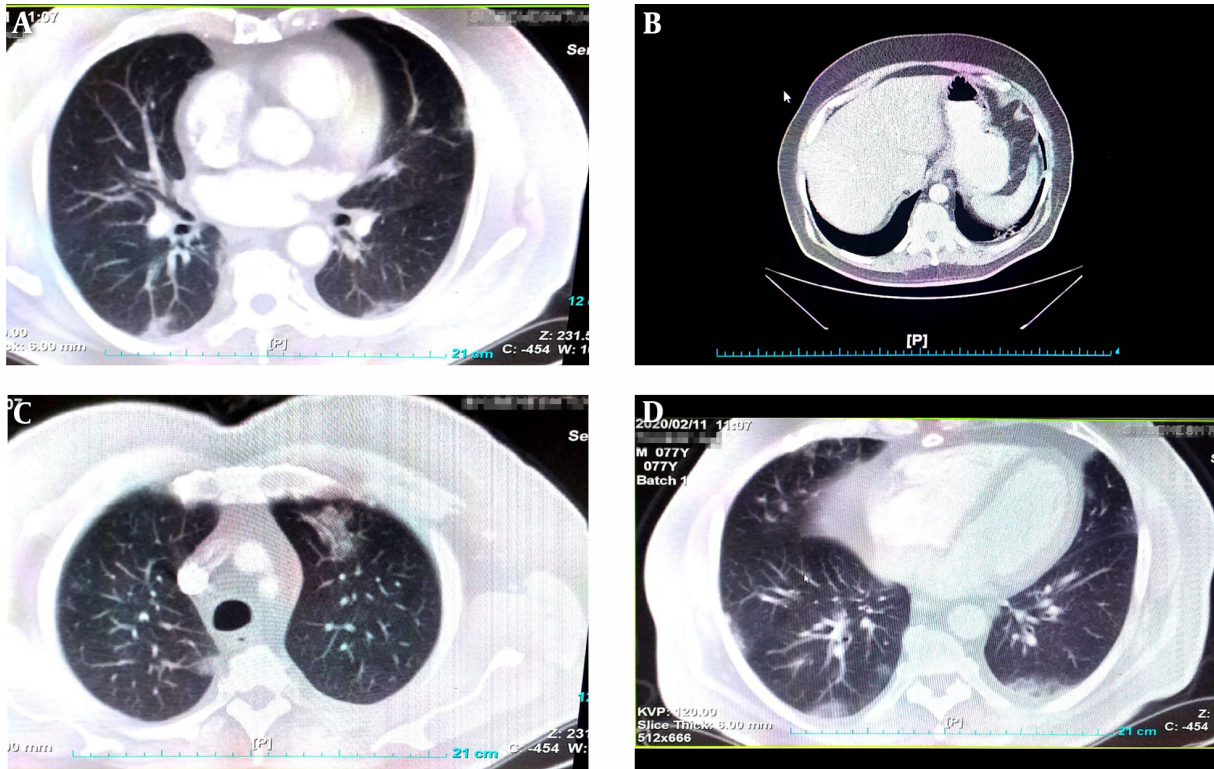
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## Footnotes

**Authors' Contribution:** Ahmad Hormati wrote the report. Reza Aminnejad reviewed and edited of the manuscript. Mahbobeh Afifian collected of the data. Sajjad Ahmadpour reviewed, edited and did correspondence.

**Conflict of Interests:** The authors report no conflicts of interest.

**Ethical Approval:** All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or National Research Committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. The study was approved by the Bioethics Commit-



**Figure 1.** Chest CT scan (transverse plane) of 74-year-old man with COVID-19 as revealed bilateral peripheral ground glass, crazy paving and small consolidation opacities

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Table 1. The Results of the Laboratory Examination of 74-Year-Old Man with COVID-19

Test, Unit	Result	Reference Range
<b>Blood Biochemistry</b>		
FBS, mg/dL	109	70 - 99; diabetic: > 126
Creatinine, mg/dL	1.54 <sup>a</sup>	0.7 - 1.4
Cholesterol, mg/dL	105	< 200
Triglycerides, mg/dL	100	< 150
HDL, mg/dL	36	Low risk: > 60
Total bilirubin, mg/dL	1.37 <sup>a</sup>	0.1 - 1.2
Direct bilirubin, mg/dL	0.36 <sup>a</sup>	0 - 0.3
Indirect bilirubin, mg/dL	1.01	0 - 1.1
SGOT (AST), U/L	30	11 - 37
SGPT (ALT), U/L	28	13 - 40
Alkaline phosphatase, U/L	139	100 - 460
Amylase serum, U/L	82	0 - 100
Iron (Fe), µg/dL	89	40 - 120
TIBC, µg/dL	419	230 - 440
Hb A1c, %	6.2	Non diabetic: 4 - 6; diabetic: > 6.5
Estimated average glucose, mg/dL	131	This test is a calculated glucose over the past 2 - 3 months period based on Hb A1c results
<b>Serology, Endocrinology and Tumor Marker</b>		
CRP, mg/L	4.4	Up to 6
Ferritin, ng/mL	95.8	20 - 250
Total PSA, ng/mL	0.3	0 - 4
AFP (Cia), IU/mL	3.22	0 - 4
CEA (Cia), IU/mL	2.02	Up to 4.7
Keton	Negative	-
<b>Hematology</b>		
WBC, ×10 <sup>3</sup>	10.70 <sup>a</sup>	4.1 - 10.5
Neutrophil, %	53.30	43 - 78
Lymphocyte, %	33.70	15 - 45
Monocyte, %	9.70	4 - 9
Eosinophil, %	3.00	1 - 7
Basophil, %	0.30	0.3 - 1.3
Immature granulocyte, %	0.20	0.16 - 0.62
Neutrophil, ×10 <sup>3</sup>	5.70	2 - 7.7
Lymphocyte, ×10 <sup>3</sup>	3.61	1 - 2.7
Monocyte, ×10 <sup>3</sup>	1.04	0.3 - 0.7
Eosinophil, ×10 <sup>3</sup>	0.32	0.2 - 0.6
Basophil, ×10 <sup>3</sup>	0.03	0.01 - 0.3
RBC, 10 <sup>6</sup> /µL	4.31	4.5 - 5.9
Hb, g/dL	13.80	13.5 - 17.5

HTC, %	39.90	37 - 53
MCV, fL	92.6	80 - 100
MCH, pg	32.00	26 - 34
MCHC, g/dL	34.60	32 - 36
RDW-CV, %	13.80	11.5 - 16
RDW-SD, fL	47.10	38 - 50
Platelet, $10^3/\mu\text{L}$	209.00	150 - 450
PDW, fL	13.00	9.5 - 15.2
MPV, fL	10.90	9.4 - 12.3
P-LCR, %	32.70	19.4 - 43.7
PCT, %	0.23	0.19 - 0.39
ESR 1 h, mm/h	21 <sup>a</sup>	0 - 20
<b>Urine Analysis</b>		
Color	Light yellow	-
Appearance	Clear	-
Specific gravity	1.012	-
Osmolarity	520	-
pH	5.0	-
Protein	Negative	-
Glucose	Negative	-
Bilirubine	Negative	-
Urobilinogen	Normal	-
Keton	Negative	-
Nitrite	Negative	-
Blood	Negative	-
RBC/hpf	0 - 1	-
WBC/hpf	1 - 2	-
Squamous epithelial	1 - 2	-
Bacteria	Negative	-
Mucus	Negative	-
Casts	Negative	-
Crystals	Negative	-

Abbreviations: AFP, alpha-fetoprotein; ALT, alanine transferase; AST, aspartate amino transferase; CEA, embryonic carcinoma antigen; CRP, C-reactive protein; FBS, fasting blood sugar; Hb A1c, glycosylated hemoglobin; Hb, hemoglobin; LDH, lactate dehydrogenase; TIBC: Total Iron-Binding Capacity; RBC, red blood cell; Total PSA, total prostate specific antigen; WBC, white blood cell.

<sup>a</sup>Higher in comparison to the reference value.