

Gastrointestinal symptoms in coronavirus disease 2019 presentation in Saudi Arabia

Hussein Balfaqih¹, Mobarak Alsaluli¹, Ali Alsalmi², Mohammed Aljawad¹, Mohammed Gana¹,
Jehad Alsihati³

¹Department of Internal Medicine, King Abdullah Hospital, Bisha, Saudi Arabia, ²Department of Internal Medicine, Armed Forces Hospital - Southern Region, Khamis Mushait, Saudi Arabia, ³Department of Internal Medicine, King Fahad University Hospital, Dammam, Saudi Arabia

Correspondence to: Hussien Balfaqih, E-mail: mrcpf4@hotmail.com

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ABSTRACT

Background: Coronavirus disease 2019 (COVID-19) infection has announced by the World Health Organization (WHO) as a pandemic disease in 2020. Identification and analysis of COVID-19 presentation are important for quick isolation and diagnosis. Respiratory symptoms are typically present in COVID-19 patients. **Objectives:** The objectives of this study were to identify of gastrointestinal (GI) symptoms and laboratory results in the initial presentation of COVID-19 patients. **Materials and Methods:** Our study is a retrospective study of 379 COVID-19 patients' assessments. They were admitted into government hospitals in Kingdom of Saudi Arabia's South and East regions through April month 2020. **Results:** About 14% of the patients were presented initially with GI symptoms only, in which Nausea and anorexia are the most common complain. The mean C-reactive protein, alanine aminotransferase, and aspartate aminotransferase levels were significantly elevated. **Conclusion:** It is crucial for physicians to be aware that COVID-19 infection could present initially with GI-related symptoms and keep appropriate attention and suspicion.


KEY WORDS: Coronavirus Disease 2019; Gastrointestinal Symptoms; Laboratories Characteristics

INTRODUCTION

Coronaviruses are a large family of viruses that lead to respiratory diseases from simple common cold to severe illness such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). Although they are similar genetically, the diseases that they cause are not the same. Recently, a new coronavirus disease 2019 (COVID-19) has been emerged. On December 31, 2019, the World Health Organization (WHO) was informed of a group of lung infection cases with unknown causes in Wuhan, China. It is believed that the COVID-19 originated

from animals, where most cases discovered at the seafood and animal market in Wuhan.^[1] The WHO closely monitors COVID-19 pandemic and communicate actively with counterparts from health organizations worldwide. Although many viruses attack mainly the respiratory tract, they may cause extrapulmonary manifestations. For example, MERS-COV can present with gastrointestinal (GI) symptoms with lymphopenia.

Few research works, from different countries, have been conducted to study the GI symptoms in COVID-19. Clinical Characteristics of COVID-2019 in China have been studied by Guan *et al.*^[2] The median age of the 1099 patients was 47 years, and 41.9% of the patients were female. The most common symptoms were fever (43.8% on admission and 88.7% during hospitalization) and cough (67.8%). Diarrhea was uncommon (3.8%). On admission, ground-glass opacity was the most common radiologic finding on chest computed tomography (CT) (56.4%).

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Luo *et al.*^[3] studied 1141 confirmed COVID-19 cases in China. One hundred eighty-three (16%) presented with GI symptoms only, diarrhea, and abdominal pain were the presenting symptom in 37% and 25% of patients, respectively.

In this study, we perform a case series study of COVID-19 patients in Saudi Arabia, admitted to the South and East regions' hospitals. We focus on GI symptoms during their initial clinical presentation. The findings of our study are approximately similar to the study presented by Shihua Luo *et al.*^[3] Our study found that 14% of the patients are presented with GI symptoms only, in which Nausea and anorexia are the most common complain.

MATERIALS AND METHODS

In the middle of March 2020, a number of patients with contact history with positive COVID-19 patients had no complain related to respiratory system but has mild–moderate gastroenterology symptoms. The patients were subsequently identified as have COVID-19. The study was approved by Ministry of Health – Institutional Review Board Ethics Committee. Since the recent pandemic has started, few patients have presented with GI complaints with or without fever or respiratory complaints which could be missed in triage by Physicians. This retrospective study is conducted through an evaluation of 379 confirmed cases of COVID-19 admitted to South and East regions' hospitals in the Kingdom of Saudi Arabia's (KSA). COVID-19 diagnosis is identified based on suspected case with laboratories confirmation as defined by Ministry of Health in KSA's COVID-19 Guidelines.^[4] The throat-swab specimens from patients have been obtained and kept in a viral transport media. The laboratory confirmation of COVID-19 has been done in Regional Government laboratories.^[5]

RESULTS

From 379 COVID-19 confirmed cases, 53 (14%) presented with only GI-related symptoms. Both genders were almost equal in numbers, as shown in Figure 1. The most common GI symptom was nausea, anorexia, and vomiting, as shown in Figure 2. Table 1 shows the laboratory characteristics of confirmed COVID-19 cases. Abdominal pain was present in 23% of patients. Laboratory tests showed that the mean of C-reactive protein (CRP) levels was elevated (17.9 ± 6.5 mg/L), while serum transaminases before treatment starting were (aspartate aminotransferase [AST], 65.8 ± 12.7 U/L and alanine aminotransferase [ALT], 66.4 ± 13.2 U/L). On the other hand, alkaline phosphatase amylase lipase urea, and creatinine generally were intact. From the 53 patients, three died as a result of respiratory failure, and 50 recovered (two of them admitted in intensive care unit during management course). The mean duration

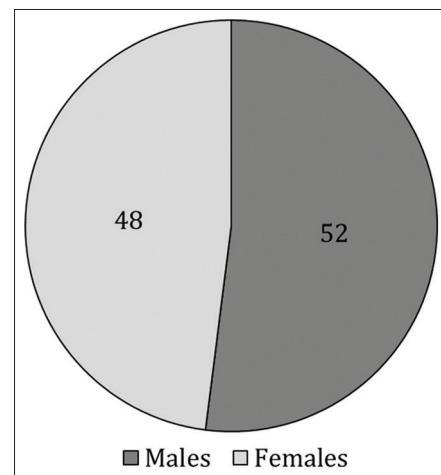


Figure 1: Gender of confirmed coronavirus disease 2019 cases

Table 1: Laboratory characteristics of confirmed COVID-19 cases

Laboratory characteristics	Value
<i>P</i> value	0.032
C-reactive protein (mg/L, 0–10.0)	17.9 ± 6.5 mg/L
AST (5–40 U/L)	65.8 ± 12.7 U/L
ALT (9–50 U/L)	66.4 ± 13.2 U/L
BUN (2.8–7.6 mmol/L)	5.6 ± 2.3
Creatinine (62–110 prnol/L)	82 ± 23
ALP (20–1401 U/L)	76 ± 38
Amylase (20–140 U/L)	63 ± 29
Lipase (0–160 U/L)	84 ± 29

ALP: Alkaline phosphatase, ALT: Alanine aminotransferase

passed for COVID-2019 confirmation was 3.2 days from first symptom appeared, which is considered short. This is because they have a history of physical contact with confirmed cases and some patients have recent travel history to high-risk area.

DISCUSSION

About 14% of the patients were presented initially with GI symptoms only, in which nausea and anorexia are the most common complain. The mean CRP, ALT and AST levels were significantly elevated.

The findings of our study are matched with the findings of Luo *et al.* study^[3] that the most common symptoms anorexia followed by nausea and vomiting. However, the most common symptoms in Guan study^[2] were nausea and vomiting only. Diarrhea was uncommon (3.8%) in Guan *et al.* study,^[2] while in our study was 19%, but it seems common in Luo *et al.* study 37%. The mean CRP, ALT, and AST levels were high in all-mentioned studies.

The main limitation of our study that the sample was 379 patients only which is considered low as our study was

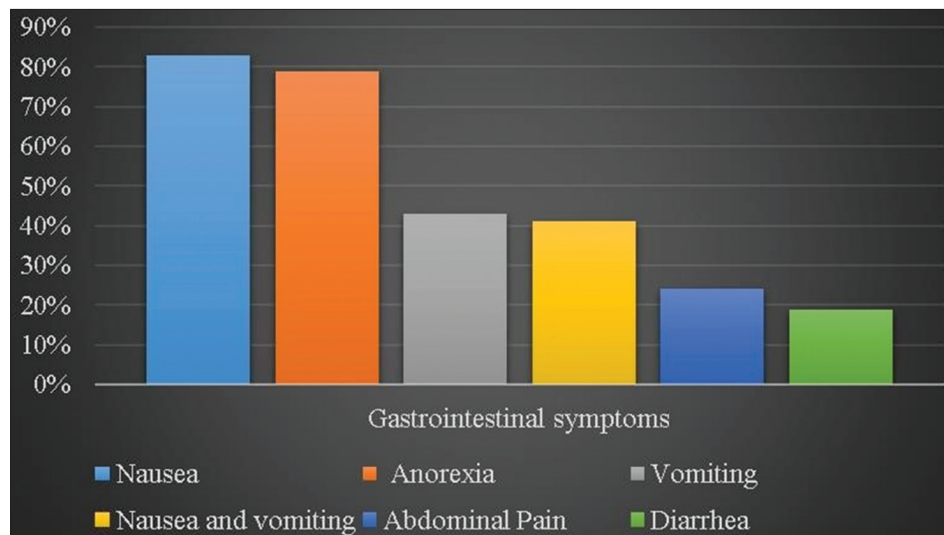


Figure 2: Most common gastrointestinal symptom

limited on April 2020 in East and South regions in Saudi Arabia. Blood samples were taken early before treatment start. Respiratory symptoms such as shortness of breath and dry cough are typically present in COVID-19 patients. This study shows that few patients have presented with GI symptoms initially, without other manifestations.

It is crucial for physicians to be aware that COVID-19 infection could present initially with gastroenterology-related symptoms and keep appropriate attention and suspicion. The missing of these could lead to the serious sequel to them and their contacts. Interestingly, other viruses with high pathogeny, such as MERS-COV,^[6] can present with GI-related manifestations. Thus, it is included in criteria of suspected case definition as atypical presentation, especially in elderly and immunocompromised patients.

CONCLUSION

Identification and analysis of COVID-19 presentation are important for quick isolation and diagnosis. Respiratory symptoms are typically present in COVID-19 patients. Few patients have presented with GI symptoms initially, with the poverty of other manifestations. It is crucial for physicians to be aware that COVID-19 infection could present initially with GI-related symptoms and keep appropriate attention and suspicion. Our study found that 14% of the patients are presented with GI symptoms only, in which nausea and anorexia are the most common complain.

REFERENCES

1. The Lancet. Emerging understandings of 2019-nCoV. *Lancet* 2020;395:311.
2. Clinical Characteristics of Coronavirus Disease 2019 in China. Available from: <https://www.nejm.org/doi/pdf/10.1056/NEJMoa2002032?articleTools=true&downloadfile=showPdf&articleTools=true&doi=10.1056/NEJMoa2002032>. [Last accessed on 2020 Apr 30].
3. Luo S, Zhang X, Xu H. Don't overlook digestive symptoms in patients with 2019 novel coronavirus disease (COVID-19). *Clin Gastroenterol Hepatol* 2020;18:1636-7.
4. Saudi Center of Disease Prevention and Control, Coronavirus Disease 19 (COVID-19) Guidelines V1.1, Saudi Ministry of Health; 2020. Available from: <https://www.moh.gov.sa/CCC/healthp/regulations/Documents/Coronavirus%20Disease%202019%20Guidelines%20v1.1.pdf>. [Last accessed on 2020 May 13].
5. WHO. Laboratory Testing for 2019 Novel Coronavirus (2019-nCoV) in Suspected Human Cases. Interim Guidance; 2020. Available from: <https://www.who.int/publicationsdetail/laboratory-testing-for-2019-novel-coronavirus-in-suspected-human-cases20200117>. [Last accessed on 2020 Feb 04].
6. Alkot M, Albouq MA, Shakuri MA, Subahi MS. Knowledge, attitude, and practice toward MERS-CoV among primary healthcare workers in Makkah Al-Mukarramah: An intervention study. *Int J Med Sci Public Health* 2016;5:952-9.

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