



A STUDY OF SPECTRUM OF GASTROINTESTINAL MANIFESTATION IN COVID-19 PATIENTS AT POST GRADUATE TEACHING INSTITUTE IN CENTRAL INDIA

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ABSTRACT

Patients with SARS-CoV-2 are at risk of multiorgan complications, including but not limited to acute respiratory distress syndrome (ARDS), sepsis, infarcts and gastrointestinal (GI) manifestations such as, nausea, vomiting, diarrhea, abdominal pain and secondary bacterial infections. One of the major systems affected by this virus is the gastrointestinal system. Emerging evidence from many anecdotal studies indicates that gastrointestinal and hepatic manifestations may play an important role in COVID-19. In addition, digestive symptoms appeared to be tied to worse outcomes. An overview of the spectrum of gastrointestinal system involvement in Covid-19 patients and its clinical, epidemiological and public health importance may be under-appreciated and thus pose a diagnostic challenge as well as a public health issue requiring further research. Identification of the gastrointestinal symptoms will help in timely identification and accurate intervention thus reducing Covid-19 caused mortality and morbidity.

KEYWORDS : Covid-19, Gastrointestinal symptoms, Morbidity, Mortality

INTRODUCTION

There is a related relationship between Covid-19 & Gastrointestinal symptoms. Covid-19 is found to be associated with several gastrointestinal symptoms. These GIT manifestations pose challenges in clinical management & suggest a complex pathophysiology of Covid-19 related GIT damage. Severe acute respiratory syndrome corona virus 2 (SARS - CoV-2), the virus that causes Covid-19 binds to angiotensin converting enzyme 2 (ACE2) receptors, which are expressed in key metabolic organs & tissues, including the intestinal epithelium cells.^[1] Few studies found that ACE2-expressing intestinal epithelial cells might be at increased risk of attack by SARS-CoV-2 and that ACE2 was highly expressed in the small intestine, especially in proximal and distal enterocytes.^[2] Hence, the digestive system can be invaded by SARS-CoV-2 and serves as an alternate route of covid-19 infection. Although the symptoms of SARS-CoV-2 are milder, infectivity is way higher compared to SARS-CoV and MERS-CoV, becoming a major health threat.^[3] Generally, the clinical syndrome of COVID-19 is associated with fever, dry cough, and dyspnoea but gastrointestinal (GI) manifestations such as nausea, vomiting, diarrhea and abdominal pain have been recognized as important manifestations of COVID-19.^[4] Although most infected people are thought to have a favourable prognosis, chronic diseases commonly seen in elderly people, such as hypertension, diabetes mellitus, dyslipidemia, cerebral vascular disease & other chronic gastrointestinal conditions, may lead to poorer clinical outcomes.^[5]

AIMS AND OBJECTIVES:

- To identify the frequency of Gastrointestinal manifestations in patients hospitalized with COVID-19.

- To evaluate the association between Gastrointestinal manifestations and their outcomes related to COVID-19.
- To assess GI symptoms which could be used for prognostication in hospitalized patients.

MATERIAL AND METHODS:

The present study was a retrospective Observational Study planned and carried out in Department of Medicine, MGM college & MY hospital, Indore for a period of 12 months. This study included 400 consecutive patients Of 18-70 years age group with documented and laboratory confirmed COVID-19 disease, at the time of enrollment who were admitted or availing treatment for COVID-19 in wards of Medicine, ICU and COVID special wards of M.Y. Hospital.

METHODOLOGY:

400 patients who were newly diagnosed covid positive and were fulfilling the inclusion criteria were included in the study. After taking pre-Informed written consent from the patients, a prestructured proforma was used to collect the desired baseline data. Detailed clinical examination and biochemical tests were done on all patients as per the protocol. All the patients diagnosed with COVID-19 were thoroughly investigated for GI manifestations. All the relevant personal history and medical history was obtained. The obtained data was coded and entered into Microsoft excel 2010 (Microsoft corp.), and was analyzed using excel 2010 and SPSS 20.0 for Windows (SPSS inc). Prevalence of an outcome variable along with 95% confidence limits was calculated and descriptive analysis of the population was carried out.

OBSERVATIONS AND RESULTS:

In present study, out of total 400 covid-19 positive patients,

majority were males(86.8%) with 50.5% patients of age group 41-60 years. It was observed that 312 (78%) of the total study participants recovered from COVID-19 while 88 (22%) could not survive. Majority 184 (46%) of the study participants had moderate severity of COVID-19 followed by 148 (37%) who had mild form of the disease. A total of 68 (17%) of the study participants had severe disease. GI manifestations were seen in 80 (20%) of the study participants while 320(80%) of the study participants had no such manifestation. Out of 80 patients with GI manifestations, a total of 48 (38.7%) study participants suffered from Diarrhoea followed by 30 (24.2%) who had Nausea/Vomiting. The other manifestations were abdominal pain in 26, (21.0%), anorexia in 15, (12.1%) and stool urgency in 5, (4.0%) patients.

Distribution according to Disease Severity

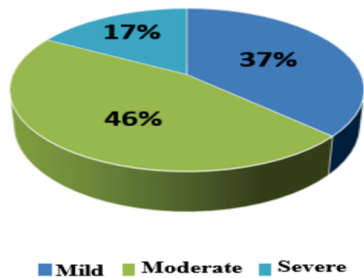


Figure 1: Distribution of Study Participants according to Disease SeveritySource: M. Y. Hospital, Indore, Madhya Pradesh, India

Table – 1 Distribution of Study Participants according to Disease Outcome

OUTCOME	Frequency (n)	Percentage (%)
Recovered	312	78
Died	88	22
Total	400	100

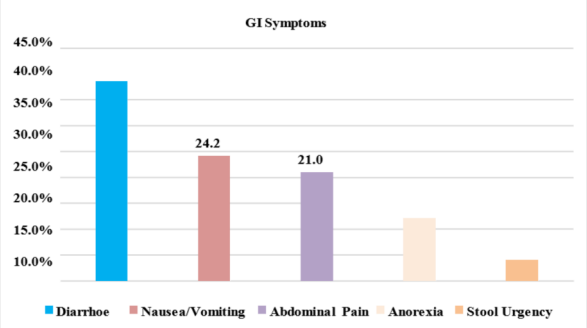


Figure 2: Distribution of GI symptoms observed among the Study Participants

CONCLUSION:

GI symptoms are commonly encountered in hospitalized COVID-19 patients. In our study, GI symptoms were not associated with poorer outcomes such as increased mortality, longer hospital Length Of Stay, and increased mechanical intubation in COVID-19 patients. It appears that the GI symptoms could potentially be a bystander in patients with COVID-19.

Further, more extensive studies are needed to evaluate the effects of gastrointestinal symptoms on outcomes in Covid-19. Specific limitations to this study include the retrospective design, relatively small sample size, single-centered hospital-based study, and lack of validated symptom instruments.

REFERENCES:

1. Zhai P, Ding Y, Wu X, et al. The epidemiology, diagnosis and treatment of COVID-19. *Int J Antimicrob Agents*. 2020;105955.
2. Del Rio C, Malani PN. COVID-19-New insights on a rapidly changing

epidemic. *J Am Med Assoc*. 2020Feb28
3. Liu Y, Yan LM, Wan L, et al. Viral dynamics in mild and severe cases of COVID-19. *Lancet Infect Dis* 2020;20: 656–7.
4. Lu R, Zhao X, Li J, et al. Genomic characterisation and epidemiology of 2019 novel coronavirus: implications for virus origins and receptor binding. *Lancet*. 2020;395(10224):565-574.
5. Forster P, Forster L, Renfrew C, et al. Phylogenetic network analysis of SARS-CoV-2 genomes. *Proc Natl Acad Sci U S A*. 2020; 117:9241–9243.