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Mini Review

The Evolving Role and Challenges Faced by Gastroenterologist in the Era of COVID-19 Pandemic and Beyond

Muhammad Kamran and Wasim Jafri*

Department of Medicine, Section of Gastroenterology, Aga Khan University Hospital, Karachi, Pakistan

***Corresponding Author:** Wasim Jafri, Department of Medicine, Section of Gastroenterology, Aga Khan University Hospital, Karachi, Pakistan.

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Abstract

COVID-19 has had a profound impact on both global economy as well as the healthcare system. The long-term consequences of this contagion are yet to be witnessed. In this perspective, the field of gastroenterology also has an important part to play, as the virus very commonly affects the gastrointestinal tract, including the liver. In this brief review, we will first describe the common gastrointestinal and hepatic manifestations pertinent to COVID-19 and also discuss why the GI tract is frequently involved in this viral disease. Subsequently, we will analyze the constantly changing role of gastroenterologists in terms of their interactions with patients in the out-patients department, ward and endoscopy suite. We will also touch upon the different hurdles being faced by them during these testing times, dealing with the COVID-19 patients and at the same time engaged in an incessant struggle to maintain continuity of care for patients with pre-existing disorders of the digestive system. Finally, we will be discussing the problems and currently being encountered by fellowship training programs throughout the world and will try to provide certain practical solutions to some of them. Our overall aim of writing this review is to highlight the issues faced by present day gastroenterologist, so that concerned authorities and academic societies can offer guidance to alleviate these concerns without compromising standard of care of the patients.

Keywords: Gastroenterologist; COVID-19; SARS-CoV-2; Pandemic; GI Tract

Introduction

The world is going through unprecedented times as far as the far-reaching effects of global COVID-19 pandemic are concerned. The contagion has caused tremendous harm to both healthcare system as well as the economic machinery of developed and under-developed countries alike [1]. Many financial firms and businesses have already filed for or are at the brink of filing bankruptcy, and a significant number of employees in different organizations is being laid off, mostly due to business shut-down and lack of revenue generation. Health facilities across the globe are overwhelmed with the burden of patients presenting with COVID-19 itself or its life-threatening complications.

The infection is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) [2]. Although primarily known to infect the respiratory tract, the virus can also involve other organ systems of the body, including the gastrointestinal (GI) tract [3]. The effects of COVD-19 on field of gastroenterology are multidimensional. The disease impact is not only immediate or temporary, but it also has long-term implications, which will persist well after the

pandemic is over. Therefore, there are multiple aspects that need to be addressed simultaneously and with professionalism in order to alleviate the problems faced by presently practicing gastroenterologists as well as those in training.

COVID-19 and the digestive system

The virus is notorious for infecting the gastrointestinal (GI) tract and the liver, with often severe disease manifestations. GI symptoms can sometimes be the only complaints with which a patient infected with COVID-19 can present to a healthcare facility [3].

Common GI symptomatology which a gastroenterologist is likely to come across in patients with COVID-19 maybe anorexia, nausea and vomiting, diarrhea, abdominal pain, and, in severe cases, GI bleeding, which may be less frequent but life-threatening [3].

SARS-CoV-2 is also known to involve the liver, possibly through its entry into the hepatocytes and cholangiocytes by attaching to the "angiotensin-converting-enzyme 2" (ACE-2) receptor [4]. Usually the liver insult seems to be a modest one, with few-folds elevation in serum transaminases at the most [5]. However, serious hepatic injuries and even deaths have been reported from a study conducted in New York [6]. We need more data in the form of high quality randomized controlled trials to study the effects of COVID-19 on the liver, especially in patients with pre-existing chronic liver disease as well as metabolic dysfunction-associated liver disease (MAFLD) with or without obesity [7].

Health impact on patients with pre-existing GI disorders

Because the pandemic has greatly revolutionized the healthcare policies and priorities, there is a possibility that patients with GI diseases (either underlying or newly diagnosed but unrelated to COVID-19) may not receive the necessary care they require. As per recommendations from many experts, routine endoscopic procedures (for e.g. investigating patients with alarm symptoms, screening for various GI cancers, surveillance endoscopic variceal band ligation etc.) are being deferred during this period. A study from Italy elucidated that a vast majority of endoscopic units have reduced their numbers of routine endoscopies, focusing mainly on emergencies [8]. This practice has been endorsed in order to limit exposure for both patient and the endoscopist so that viral transmission maybe reduced [9].

However, there is high chance that the delay in diagnosis can lead to spread of the primary disease, resulting in compromised care and increased morbidity and mortality [10]. For example, in patients with inflammatory bowel disease (IBD), it is very difficult to determine when an emergent endoscopic procedure needs to be carried out. Patients may present with abdominal discomfort and altered bowel habits which can be overlooked as irritable bowel syndrome. However, these can be early symptoms of IBD, and this delay in detection of disease can lead to disastrous consequences for the patient and his family [11].

Many societal guidelines also propose the idea of patient consultations over the phone or as video-conferencing, instead of the patient being physically coming to the outpatients' department [2]. However, preferring to conduct tele-clinics rather than seeing patients in person can result in sub-optimal patient management, especially in those cases where a detailed physical examination is required. Therefore, it is time that patient care programs and guidelines are designed by reputed academic societies and permitted at the governmental level, so that the needs of this special group of patients can be catered to without undue delay. We suggest that selected patients that require close monitoring be seen face-to-face by the treating gastroenterologist, of course with complete precautionary measures, so that a comprehensive treatment strategy can be devised for such patients.

COVID-19 and GI endoscopy

Protecting patients with pre-existing GI and liver disease from the contagion is another major challenge. This is important especially in patients who are already immunocompromised, for e.g. those with underlying liver cirrhosis, liver transplant recipients and sufferers of inflammatory bowel disease, whose time of exposure needs to be reduced, not only in endoscopy units (where chances of probable cross-contamination are high), but also in routine clinics and wards. GI endoscopy carries the risk of aerosol generation, and COVID-19 can potentially spread through feco-oral transmission, placing the healthcare worker (or endoscopist) in significant danger of acquiring the viral infection [12]. Hence almost all international guidelines strongly advise use of appropriate personal protective equipment (PPE, which includes N-95 mask, gloves, goggles or face shield, and gown) while doing such proce-

dures [12]. In addition, many authorities also recommend that thorough training be provided to all healthcare providers about how to wear and remove the PPE [13].

In addition, it is generally recommended by most gastroenterology societies to postpone all GI procedures which are not urgent, and focus on mainly emergencies, like GI bleed, foreign body removal and cholangitis [12]. However, a recent survey, which was disseminated online, interestingly revealed that most gastroenterologists and GI trainees across the globe have limited understanding as to how to differentiate between emergent and non-emergent GI endoscopic procedures [14]. Therefore, there is immense need to educate gastroenterologists in this regard across the board, so that strong triage assessments can be carried out.

The world will now gradually be moving towards a post-pandemic age. GI endoscopy practices will also need significant modifications as endoscopy suites in most countries will be opening up for non-urgent procedures, which may or may not be related to COVID-19 [15]. However, there are many unanswered questions which will need to be addressed as well. As an example, we don't know the magnitude of risk of acquiring COVID-19 infection in a patient from the endoscopy staff. Similarly, although there is a consensus on screening all endoscopy staff at the beginning of each working day, it is not clear as to how frequently the endoscopy unit team members be tested for the virus [16].

Mentoring GI fellows in these difficult times: How to fill the gaps?

The gastroenterology fellowship training programs across the world (like any other specialty training curricula) have suffered immensely as a result of social seclusion and increased environmental stress and anxiety of contracting the viral illness among trainees and trainers. Many have families including young children and elderly parents, and they live in fear of transmitting exposures to their loved ones. The routine didactic activities of the GI fellows like journal clubs and multidisciplinary meetings have been interrupted due to the pandemic. Due to a considerable drop in the number of elective procedures, there is a possibility that their procedural skills may not develop as optimally as is required. The exit exams of graduating fellows have also been delayed in some countries [17]. Also, because of the uncertainty in the job market and the fear of losing their expertise in the field, the trainees may be skeptical about securing a reasonable job as gastroenterologists.

To overcome these challenges and shortcomings, we propose the following: Most importantly, adequate psychological support through video links can be available to the fellows in training to help them cope up with this overall stressful situation. Academic sessions can be arranged for the students using video-conferencing and social media tools. In this regard, the Pakistan Society for the Study of Liver Diseases (PSSLD) has taken an encouraging initiative of organizing online journal clubs every week, target audience of which is mainly the GI fellows and young gastroenterologists of the country, although any healthcare professional interested in the subject can benefit. Similarly, at a regional level, the Asian Pacific Association for the Study of Liver (APASL) is also conducting webinars as a weekly activity, where eminent experts in the field of hepatology deliver their lectures.

National and international conferences, which are being virtually arranged already, can also serve as a useful medium of learning and education for the trainees. Procedural competence can be enhanced by close observation and more regular feedback, rather than focusing on increasing the number of procedures only. All these measures, if taken appropriately, will not only boost the self-confidence of our fellows, but will also train them to become better professionals in their field and ultimately help improve patient care.

Conclusion

The global impact of COVID-19 has posed innumerable challenges for healthcare workers in general and gastroenterologists in particular. As the influence of this pandemic is going to be long-lasting, it is vital that the continuously evolving role of gastroenterologists be acknowledged and recognized. Relevant measures must be taken to overcome the hurdles faced by this community of physicians, who, with their colleagues of other specialties, are struggling hard to provide quality care to its patients. Last but not the least, the lacunae in GI training in the present scenario should be identified to fulfill the academic requirements and procedural expertise of young gastroenterologists in the making.

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