



## Preface

# Gastrointestinal, Hepatic, and Pancreatic Manifestations of COVID-19 Infection



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*Editor*

We are living a false conceit that the world's health ineluctably improves and advances every year. For example, the average life expectancy of the population of Toronto was 50 years in 1900 and is currently 81.8 years.<sup>1</sup> Moreover, the average life expectancy increased appreciably every year for the last several generations.<sup>2</sup> We have assumed this wonderfully optimistic trend is preordained.

Then came the great COVID-19 pandemic!

And life expectancy in America precipitously declined in 2020 and in 2021, two years in a row, for the first time in generations.<sup>3</sup>

The pandemic, I believe, constitutes a cataclysmic warning: if we are not proactive, take proper precautions, institute preventive measures, and adapt infection control, another calamitous infectious disease can strike inevitably, hard, and soon. This Malthusian future may occur not by insufficient growth of the food supply as Malthus predicted, but from a novel virus crossing over to humans from bats or another animal host that is deadly, devastating, and annihilating to humans because humans lack any natural immunity to this novel virus. It is critical to increase investments by public health organizations, pharma, and medical institutions directed to virology, infectious diseases, and vaccine research to prevent and mitigate the next pending pandemic, which may be imminently jumping from bats to humans!

Consider our experience over the last three years with the COVID-19 pandemic as a roadmap on how to deal faster, more effectively, and more efficiently with the next global pandemic. Analysis of the history of this current pandemic response offers us the opportunity to critically analyze what we did, how we did it, what we did right, and what we did inefficiently to improve our response to the next inevitable pandemic. The worldwide response, greatly supported by the American government, National

Institutes of Health, and Food and Drug Administration, with notable contributions by Western democracies, institutions, and the World Health Organization, led the international effort. The current work provides an intense survey of the gastrointestinal (GI), hepatic, and pancreatic manifestations of COVID-19 infection. While the primary morbidity and mortality from COVID-19 are from pneumonia and respiratory decompensation, the GI tract is an important contributor to morbidity and an occasional contributor to mortality from COVID-19 infection, a connection reinforced by the presence of the angiotensin-converting enzyme-2 receptors in the GI tract,<sup>4</sup> and the passage of viral particles in stool.<sup>5</sup>

The current thorough study of the pathophysiology, virology, immunology, clinical manifestations, natural history, and treatment of GI tract disease represents the first comprehensive analysis of GI manifestations of COVID-19 in a journal issue. The venue of the *Gastroenterology Clinics of North America* is admirably suited to publish recent related advances quickly since it combines the quick turnaround typical of journals with the comprehensiveness of a book publication on related topics in a series of monographs, such as in *The Clinics* format. Indeed, the *Gastroenterology Clinics of North America* was published six months after I first recruited its contributors. The assembled senior article authors did a wonderful job on the articles as acknowledged national or international experts in the field of GI manifestations of COVID-19 infection, including Dr Saurabh Mehandru on the pathophysiology, immunology, and virology; Dr K. Rajender Reddy on liver and biliary manifestations of COVID-19 infection; Dr Tiago Correia de Sá on pancreatic manifestations; Dr H. Kaafarani on surgical aspects of GI disease; Dr David M. Friedel on diarrhea as a symptom of COVID-19 infection; Dr Mitchell S. Cappell on GI bleeding with COVID-19 infection; Dr Stephen B. Hanauer on inflammatory bowel disease with COVID-19 infection; Dr Mitchell S. Cappell on miscellaneous GI inflammatory disorders with COVID-19 infection; Dr Shahnaz Sultan on GI endoscopy with COVID-19 infection; Dr Piero Boraschi on diagnostic and interventional radiology for GI manifestations of COVID-19; Dr Arvind G. Trindade on GI manifestations of long (chronic) COVID-19 infection; and Dr Chuxiu Yang on GI pathology with COVID-19 infection. Beyond these contributors, I am also delighted to acknowledge the important contributions of the other article authors who substantively improved the articles for publication. The importance of these timely reviews is indicated by the huge number of articles published in peer-reviewed journals on GI and related infections associated with COVID-19 infection.<sup>6</sup>

The last two special articles are devoted to critical reviews two years thereafter of the revolutionary changes occurring at a medical school and teaching hospital due to the pandemic. These institutions are proposed as a microcosm of the revolutionary changes with a critical review offering the opportunity to critique these changes from the perspective of two years thereafter. These novel critical analyses provide an opportunity for performance improvement to prepare the next (and I believe inevitable) pandemic in terms of streamlining efficiency and improving the quality of the next pandemic response.

Finally, I thank Dr Alan Buchman for carefully supervising my selection of experts and the article topics for this issue. I am delighted to have worked and collaborated with Hannah Lopez and Kerry Holland for help in editing this journal issue. It was wonderful for me to collaborate with these highly talented individuals!

I believe this issue is my most important and clinically relevant editorship among the 12 issues of the *Medical Clinics of North America* and the *Gastroenterology Clinics of North America* that I have edited over the past 20 years because this work outlines a new discipline of GI manifestations of COVID-19 infection for the first time published in

a book or monograph format. I believe this novel issue represents an important addition to this discipline.

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