COVID-19 and the Pediatric Gastroenterologist

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Coronavirus disease 2019, also known as COVID-19, is accelerating around the world in pandemic proportions. This new viral pathogen has garnered the world's attention over the past 3 months in ways that no other human infection has to date.

A task force of leaders from NASPGHAN, ESPGHAN, LASPGHAN, and Asia (Hangzhou, China) have written a commentary with what COVID-19 means to the pediatric gastroenterologist. Here are excerpts from the commentary (Accessed on 8th March 2020 from https://naspghan.org/wpcontent/uploads/2020/04/ COVID_19_and_the_Pediatric_Gastroenterologist.96117-1.pdf)

What are the clinical features of COVID -19?

- Cough, fever, and fatigue are the most common symptoms in adults. Whereas adults tend to present stereotypically with acute respiratory symptoms, the presentation of children appears more variable.
- The symptoms in children are sometimes indistinguishable from those associated with common respiratory infections
- Vomiting and diarrhea may be among the presenting symptoms in up to 10% of children
- Abnormal liver biochemistries are observed in 20-30% of persons infected by COVID19.
- Radiological and laboratory findings early in the course of COVID-19 disease have been described as stereotypically including ground glass opacities of the lung, lymphopenia, and elevated C-reactive protein
- Infants are found to have higher rates of serious illness than older children. About 11% of infants had severe or critical illness compared to 7% of children ages 1-5 years, 4% of those 6-10 years of age, 4% of those 11-15 years, and 3% of those 16 years and older.

Risk of Exposure and Severe Illness:

- Healthcare workers caring for patients with COVID-19 are at elevated risk of infection.
- Endoscopists are at particular risk given the recently identified exposure of the endoscopist's face to biological material during the procedure, a finding not surprising, and substantiated by the observation that droplets aerosolized from SARS-CoV patients reached individuals located more than 6 feet away
- The presence of SARSCoV-2 in colonic biopsy specimens and stool also suggests that the risk is not limited to upper endoscopy.
- The presence of SARS-CoV-2 in stool suggests the possibility of fecal-oral spread in addition to aerosolized droplet spread, and underscores the importance of frequent hand-washing
- SARS-CoV-2 remains stable in aerosols for greater than 3 hours, and is more stable on plastic and stainless steel than on copper or cardboard.
- Those at increased risk of severe disease include: older adults, with risk increasing by age (especially those > 60 years), infants under 12 months of age, individuals with serious chronic medical conditions such as those with cancer, end-stage renal disease on dialysis, diabetes, poorly controlled hypertension etc.
- However, adults and children on immunomodulating drugs, or immunosuppressed for other reasons, do not seem to be more prone to acquiring the SARS-CoV-2 infection

Recommendations for pediatric gastroenterology practices:

- Current guidelines recommend postponing elective non-urgent endoscopic procedures until the SARSCoV-2 pandemic has subsided in the local area

- In contrast, the only endoscopic procedures that should be conducted are those in which the life of the patient is threatened (e.g. significant acute bleeding), function of the organ may be at risk (e.g. liver biopsy for the diagnosis of autoimmune hepatitis), or the delay of the procedure could significantly change long-term prognosis (e.g. suspected cancer)
- The diagnosis of celiac disease, for instance, can, in many cases, especially in asymptomatic patients, be postponed for a few months without significant impact on prognosis. When biopsy is needed and not done for celiac disease due to the COVID-19 pandemic, patients should be advised keep gluten in the diet, if possible, until a diagnosis is made.
- An effort to delay endoscopies due to abdominal pain, heartburn, diarrhea and other GI manifestations should be exercised
- In contrast, when a disease like inflammatory bowel disease is suspected and delay in diagnosis would be dangerous for the patient, and treatment is reliant on endoscopic evaluation, exposure risks of endoscopy may be warranted.
- Pre-screen all patients for high risk exposure or symptoms:

  a. Patients should be asked about history of fever or respiratory symptoms, family members or close contacts with COVID-suggestive symptoms, and any contact with a confirmed case of COVID-19.

  b. Any patient or visitor with fever or respiratory symptoms must be given a surgical mask to wear.
- Make sure appropriate personal protective equipment (PPE) is available and worn by all members of the endoscopy team, and know how to don and doff PPE appropriately
- Check body temperature of the patient and their attendant upon entrance to the endoscopy unit or clinic building.
- Personal Protective Equipment in the healthcare environment:

  a. In a *low-risk situation*: (No symptoms (e.g., cough, fever, shortness of breath, diarrhea), No history of contact with COVID-individual, No travel to high-risk area during previous 14 days)

  i. Surgical mask

  ii. Goggles or eye shield

  iii. Gown

  iv. Gloves

  b. In a *high-risk situation* or with a known COVID-positive patient:
  A High risk situation is one of the following:
  -Presence of symptoms with: No history of contact with COVID-19-positive individual and No travel to high-risk area during previous 14 days
  -No symptoms but: Contact with COVID-19-positive individual or Travel to high risk area during previous 14 days
  -At least one symptom + one of the following: Contact with COVID-19-positive individual or Travel to high risk area during previous 14 days

  i. N95 or FFFP2-3 Respirator

  ii. Goggles

  iii. Water-resistant gown

  iv. Gloves

  v. All evaluations in a negative pressure room
- Consider contacting patients at 7 and 14 days to ask about any new diagnosis, or development of COVID-19 symptoms.
- Conservation of PPE is critical.

  a. Only essential personnel should be present in cases.

  b. Consider extended use or reuse of surgical masks and eye protection in accordance with hospital policies.
- Patients on immunosuppressive drugs should continue taking their medications as we know that the risk of undertreated disease outweighs the chance of contracting coronavirus.
- The use of telemedicine is now a critical tool for the pediatric gastroenterologists and their patients, whether in the academic setting or private practice.