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11:59pm Eastern

How to Receive CME and MOC Points
LIVE VIRTUAL GRAND ROUNDS WEBINAR
ACG will send a link to a CME & MOC evaluation to all
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ABIM Board Certified physicians need to complete their MOC activities by December 31,
2020 in order for the MOC points to count toward any MOC requirements that are due
by the end of the year. No MOC credit may be awarded after March 1, 2021 for this activity.

ACG will submit MOC points on the first of each month. Please allow 3-5 business days for your
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MOC QUESTION
If you plan to claim MOC Points for this activity, you will be asked to: Please list
specific changes you will make in your practice as a result of the information you
received from this activity.

Include specific strategies or changes that you plan to implement.

THESE ANSWERS WILL BE REVIEWED
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NEW!!
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Week 9: Positioning of Old and New Therapies in IBD
David T. Rubin, MD, FACP
May 21, 2020 at Noon EDT

Week 10: Colorectal Cancer Screening in a Post Covid World
Renee L. Williams, MD, MPH, FACP
May 28, 2020 at Noon EDT

Gastrointestinal Manifestations of COVID-19
Latest Data on Symptoms, Stool Testing, and Clinical Outcomes

Clinical Characteristics of Coronavirus Disease 2019 in China
RESULTS

The median age of the patients was 47 years. 41.9% of the patients were female. The primary composite end point occurred in 67 patients (6.8%), including 5.0% who were admitted to the ICU, 2.3% who underwent invasive mechanical ventilation, and 1.4% who died. Only 1.9% of the patients had a history of direct contact with wildlife. Among nonresidents of Wuhan, 72.3% had contact with residents of Wuhan, including 21.3% who had visited the city. The most common symptoms were fever (67.8%), cough (4 days), diarrhea (3.8%), and headache. On admission, ground-glass opacity was the most common radiologic finding on chest computed tomography (CT) (90.4%). No radiographic or CT abnormality was found in 157 of 877 patients (17.9%) with no severe disease and in 5 of 173 patients (2.9%) with severe disease. Lymphocytopenia was present in 89.2% of the patients on admission.
A 41-year-old woman presented with diarrhea, vomiting, fever, 10 watery, voluminous, blood-tinged BMs per day. Orthostatic and dehydrated upon presentation. Na=132; K=3.0; ESR=64; CRP=155; Urine gravity=1.029. CXR = negative; COVID-19 not suspected and patient not isolated. Treated with IVF but voluminous diarrhea persisted. Became short of breath; follow-up CXR = positive. Nasopharyngeal swab = COVID-19 positive. Clinical status worsened; creatinine rose; intubated... died.

- Bowel wall abnormalities seen in 31% of CT scans
- Abnormalities associated with ICU admission
- Bowel findings included pneumatosis or portal venous gas in 20% of ICU patient CT scans

Any digestive symptom = 50.5% (n=204)
Diarrhea = 17%
GI patients:
- Higher liver tests
- Longer prothrombin time

Any digestive symptom = 61% (n=151)
Diarrhea = 34%
GI was predominant complaint in 20%
GI was initial complaint in 14%
GI patients:
- Loss of taste/smell more common
- No difference in ICU care or mortality

Any digestive symptom = 35% (n=239)
Among all patients tested for COVID-19, those with GI symptoms had 70% higher odds of testing positive

Any digestive symptom = 34% (n=212)
GI patients:
- Risk of hospitalization ~5x higher overall
- Risk of hospitalization ~8x higher if diarrhea
- Renal insufficiency ~2x higher
- No difference in ICU care or mortality
In conclusion, while analyzing our initial clinical and demographic data in patients with COVID-19 we identified the presence of gastrointestinal symptoms as a risk factor for higher severity of overall illness and need for hospitalization. With the current focus on streamlining patient care, early identification and treatment of gastrointestinal symptoms in their initial clinical evaluation and decision-making. Larger prospective studies are needed to validate these observations.

No difference in ICU care or mortality
Mild COVID-19
N=206
Respiratory Only
N=89
Respiratory + GI
N=69
GI Only
N=48

Diarrhea, nausea or vomiting may be first coronavirus symptoms in some patients

Some people may have the “gastrointestinal version” of COVID-19

Watch for symptoms
People with COVID-19 have had a wide range of symptoms reported — ranging from mild symptoms to severe illness.

Symptoms may appear 2-14 days after exposure to the virus. People with these symptoms may have COVID-19:

- Cough
- Shortness of breath or difficulty breathing
- Fever
- Chills
- Muscle pain
- Sore throat
- New loss of taste or smell

Children have similar symptoms to adults and generally have mild illness.

This list is not all-inclusive. Other less common symptoms have been reported, including gastrointestinal symptoms like nausea, vomiting, or diarrhea.

Self-Checker
A guide to help you make decisions and seek appropriate medical care.

Survey of 100K Americans launched 5/3/20
- Uses questionnaires from MyGIHealth app
- Collecting self-reported data on COVID-19 testing (positive, negative, never tested)
- Collecting expanded list of GI symptoms:
  - Diarrhea
  - Nausea / vomiting
  - Abdominal pain
  - Bloating
  - Reflux / regurgitation
  - Trouble swallowing
Stool tested positive for SARS-CoV-2 in 53% (N=73).

Mean age of patients testing positive in stool was higher vs. those testing negative (49 vs. 36 years).

Stool stayed positive for up to 12 days in this series.

Even once respiratory samples cleared, stool remained positive in 22%.

We observed that for over half of patients, their faecal samples remained positive for SARS-CoV-2 RNA for a mean of 11.2 days after respiratory tract samples became negative for SARS-CoV-2 RNA, implying that the virus is actively replicating in the patient's gastrointestinal tract and that faecal-oral transmission could occur after viral clearance in the respiratory tract.

Digestive Symptoms in COVID-19 Patients With Mild Disease Severity: Clinical Presentation, Stool Viral RNA Testing, and Outcomes

- Stool positive in 55% of patients tested across groups
  - GI + respiratory = 89%
  - GI alone = 60%
  - Respiratory alone = 24%

- Patients with positive stool took 11 days longer to clear virus (p=0.003)
Why is the stool positive?
Is the stool infectious?
What should we do about it?

In studies in humans, tissue samples from 15 organs have shown that ACE2 is expressed broadly, including in the heart and kidneys, as well as on the principal target cells for SARS-CoV-2 (and the site of dominant injury), the lung alveolar epithelial cells.¹


Expression of ACE2 in Different Organs

Xu et al. LIOE 12/9/2020

Case Report
• 73-year-old man with COVID-19 pneumonia in ICU
• Developed GI bleeding
• Pan-endoscopy found esophageal source
• Biopsies obtained throughout GI tract and tested for ACE2 and viral nucleocapsid protein (NP)

SARS-CoV-2 productively infects human gut enterocytes
• Grown from small intestinal organoids (hSIOs) from adult stem cells
• Exposed hSIOs to SARS-CoV-2
• Stained for viral RNA, nucleocapsid protein, and proliferating cells
• Found evidence of invasion and rapid viral proliferation within enterocytes


BRIEF COMMUNICATIONS

Gastroenterology
But how does SARS-CoV-2 get into the GI tract in the first place?

And doesn’t gastric acid kill it before it enters the duodenum?

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Darnell et al. J Virological Methods 121;85-91:2004

**Theory #1:** Age-related differences in stool positivity might be due to atrophic gastritis from *H. pylori*

**Theory #2:** Higher prevalence of COVID-19 in blood group A may also be from lower acid in stomach (group A associated with *H. pylori*)

**Theory #3:** Proton pump inhibitors (PPIs) might increase risk of GI COVID-19

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The Lancet Gastroenterology & Hepatology

**Enteric involvement of coronaviruses: is faecal-oral transmission of SARS-CoV-2 possible?**

Charles Yeo - Sanghul Kazakhstan - Dawson Yeo

Published: February 10, 2020 - DOI: https://doi.org/10.1016/S2468-1253(20)30048-0 - Check for updates

**Concentration and detection of SARS coronavirus in sewage from Xiao Tang Shan Hospital and the 309th Hospital of the Chinese People’s Liberation Army.**


In this study, we found that the virus can survive for 14 days in sewage at 4 degrees C. This raises concerns about the potential for transmission of SARS-CoV-2 through sewage systems and wastewater treatment plants.
Stool positive in 29% of samples (N=153)

Four fecal specimens with high copy numbers were cultured, and then electron microscopy performed to detect live virus

Found evidence of live virus in 2 patients, neither of whom had diarrhea

The virus may be present in GI secretions and viral RNA is detectable in stool. Gastrointestinal infection and potential fecal-oral transmission must be considered.
Effects of COVID-19 on the Liver: Liver Symptoms

Paul Y. Kwo, MD, FACC
Professor of Medicine
Director of Hepatology
Stanford University School of Medicine
430 Broadway, Pavilion C, 3rd Floor
Redwood City, CA 94063

P (650) 498-6080
F (650) 498-5692
pkwo@stanford.edu

COVID-19 and the Liver

- COVID-19 is an RNA virus first identified in Wuhan China
- Similar to SARS virus reported in 2004
- 60% of SARS-infected individuals had evidence of liver impairment
- Primary presentation is with fever and respiratory symptoms but a GI presentation of nausea and diarrhea is not rare with viral shedding found in stool
- Gains entry to body via angiotensin-converting enzyme 2 (ACE2) receptor to enter the target cell
- ACE2 expressed on hepatocytes and biliary epithelial cells

For latest on GI COVID: @BrennanSpiegel
CDC: People Who Are at Higher Risk for Severe Illness

- People 65 years and older
- People who live in a nursing home or long-term care facility
- People of all ages with underlying medical conditions, particularly if not well controlled including:
  - People with chronic lung disease or moderate to severe asthma
  - People who have serious heart conditions
  - People who are immunocompromised
    - Many conditions can cause a person to be immunocompromised, including cancer treatment, smoking, bone marrow or organ transplant recipients, untreated HIV or AIDS, and people with chronic diseases
  - People with severe obesity (body mass index [BMI] of 40 or higher)
  - People with diabetes
  - People with chronic kidney disease undergoing dialysis

What are the presentations of liver involvement in COVID-19 infection?

- Elevated liver tests are common in COVID-19 infection (14-78%)
- Liver injury is primarily hepatocellular (AST/ALT)
  - AST may be greater than ALT
  - Cholestatic pattern of injury is extremely rare
- One preliminary report suggested up to 54% of COVID-19 patients had elevated GGT
  - Preliminary study (not peer-reviewed) has suggested that ACE2 receptor expression is enriched in cholangiocytes which may explain the observed elevations in GGT
- In general, a milder clinical course of COVID-19 infection is associated with lower prevalence of AST/ALT abnormalities and lower levels of AST/ALT elevations than those with severe clinical course
- Majority of elevations with COVID-19 infection are mild

Comorbidities with liver disease and liver dysfunction in patients with SARS-CoV-2 infection

<table>
<thead>
<tr>
<th>Comorbidity</th>
<th>Prevalence</th>
<th>Associated Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obesity</td>
<td>High</td>
<td>Microvesicular steatosis</td>
</tr>
<tr>
<td>Diabetes</td>
<td>Moderate</td>
<td>Cholestasis</td>
</tr>
<tr>
<td>Chronic kidney disease</td>
<td>Low</td>
<td>Portal hypertension</td>
</tr>
</tbody>
</table>

Liver Biochemistries Associated With Intubation

<table>
<thead>
<tr>
<th>Biochemistry</th>
<th>Intubated (n = 19)</th>
<th>Non-intubated (n = 41)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>AST (U/L)</td>
<td>69 (64-84)</td>
<td>46 (30-72)</td>
<td>0.001</td>
</tr>
<tr>
<td>ALT (U/L)</td>
<td>40 (28-62)</td>
<td>36 (15-75)</td>
<td>0.12</td>
</tr>
<tr>
<td>ALP (U/L)</td>
<td>67 (46-110)</td>
<td>77 (44-160)</td>
<td>0.28</td>
</tr>
<tr>
<td>GGT (U/L)</td>
<td>67 (45-102)</td>
<td>99 (68-158)</td>
<td>0.17</td>
</tr>
<tr>
<td>Bilirubin (µmol/L)</td>
<td>5 (3-10)</td>
<td>5 (3-10)</td>
<td>0.70</td>
</tr>
</tbody>
</table>

Liver biopsy findings in COVID-19 infection

- Data are limited
- Microvesicular steatosis with mild lobular and portal activity, sinusoidal dilatation
- Other autopsy findings reported include the finding of over-activated T cells
  - Preliminary suggestion is liver injury that is observed is likely immune mediated and not a direct viral cytopathic effect

Multicenter analysis of clinical characteristics and outcome of COVID-19 patients with liver injury

- Liver injury-defined as elevated ALT, AST or TB
- Longer time from illness onset to admission resulted in higher risk of liver injury in patients with COVID-19
- No difference in length of stay in hospital in those with liver injury
Acute COVID 19 infection can present as an acute hepatitis
Case report: 59-year-old female with controlled HIV infection
Presented with ALT/AST elevation after coming to ED for evaluation of dark urine
24 hours after admission, developed fever, respiratory symptoms with characteristic CXR

Evaluation of those with COVID-19 infection who present with elevated liver tests
• Test for HBV and HCV infection in addition to standard evaluation for acute hepatitis if elevated liver tests become more elevated
• Other causes of elevated liver biochemistries should be investigated: myositis, cardiac injury, ischemia, drug-induced liver injury, and cytokine release syndrome.
• Remdesivir with 7% rate of grade 3 abnormal liver tests, 3% discontinued due to elevated liver tests1
• Hydroxychloroquine and azithromycin are very rare causes of drug-induced liver injury
• If unsure about drug interactions, use following link: https://www.covid19-druginteractions.org/
• Imaging of liver if thrombosis or biliary obstruction suspected

Which of our patient populations may be at increased risk for COVID-19 complications?
• NAFLD
• Alcoholic liver disease
• Immune mediated liver disease (Autoimmune hepatitis)
• Cirrhosis with or without hepatocellular cancer
• Liver transplant candidates and recipients

Alcoholic Liver Disease and COVID-19
• COVID-19 pandemic has had a significant negative psychological impact
• Little published data to guide us
  • Increased rates of depression, anxiety, stress, isolation, job loss
  • Those with alcohol use disorder or chronic liver disease may not seek medical care
  • Corticosteroids for acute alcoholic hepatitis associated with more risk in COVID era
  • Alcohol reported to be the most common cause of cirrhosis in those with COVID-19 infection and cirrhosis

Autoimmune Liver Disease
• Autoimmune hepatitis: No pre-emptive changes in immunosuppression for those without COVID-19 infection, avoid high dose steroids
• With active COVID-19 infection, avoid high dose steroids, consider reduction of immunomodulatory therapy (azathioprine, mycophenolate) with severe symptoms
• PBC/PSC: Unknown if COVID-19 infection worsens cholestatic liver disease
Cirrhosis patient management during the COVID-19 pandemic

- No change necessary in standard medicines used in treatment of cirrhosis
- Make sure patients are vaccinated against influenza and strep pneumonia
- All routine clinic visits are telehealth
- Urgent face to face visits still occur rarely, patients are prescreened for fever, cough and they are given mask in clinic
- We have deferred (briefly) routine screening for hepatocellular cancer (HCC) in those without known lesions or without high concern for liver mass during shelter order
- Treatment of HCC has not been deferred
- Endoscopies were deferred for routine variceal screening, now resuming with appropriate precautions
  - If unable to perform endoscopy and at high risk for large varices, can consider non-selective beta blocker

Liver transplant patient management during the COVID-19 pandemic

- Evaluation visits in high MELD patients still occur, transplant volume is markedly reduced in many centers
- Telehealth wherever possible
  - When seen in clinic, patients are prescreened for fever, cough and they are given mask in clinic
  - Screen donors and recipients for COVID-19 infection
- Deceased donor transplants continue with appropriate screening
- Consider deferring live donor transplant in those with stable liver disease
- No changes in routine immunosuppression
- If your patient acquires COVID-19 and is on immunosuppression, you can consider reduction (though not discontinuation) of calcineurin inhibitors and anti-metabolites (mycophenolate)

Outcomes of COVID-19 infection in liver transplant patients from Italy

- In 111 who had been transplanted at least 10 years ago
  - 3 deaths from COVID-19 related complications
  - All 3 were on minimal immunosuppression
  - All 3 had comorbidities including diabetes and hypertension
- In 46 liver transplant patients transplanted within two years
  - 3 COVID-19 infections reported, all recovered uneventfully
- One underlying theme is that those with metabolic comorbidities appear to be at risk for a more severe outcome
- No changes in immunosuppression appear required during COVID pandemic

Summary

- Hepatic involvement of COVID-19 is common, hepatocellular injury is the dominant presentation
  - The clinical course in most individuals is mild
  - Higher aminotransferase levels (AST>ALT) and in 1 preliminary report, elevated GGT levels are associated with a more severe course of infection
- Those with NASH, cirrhosis, or who are post transplant appear to have more severe sequelae from COVID-19, likely due to associated comorbidities
- No change in overall management of cirrhosis patients, briefly defer routine HCC screening and variceal screening during pandemic, with plan to bring patients back as shelter orders are lifted
- No change in immunosuppression in stable liver transplant patients and autoimmune hepatitis
- Adjustments should be considered in those with active COVID-19
Inflammatory Bowel Disease During the SARS-CoV-2 Pandemic

Millie D. Long MD, MPH, FACG
5-18-2020

Associate Professor of Medicine
Vice-Chief for Education
Director, Gastroenterology and Hepatology Fellowship Program
Inflammatory Bowel Disease Center
University of North Carolina-Chapel Hill

Cases: How would you manage?

• Case 1: 23-year-old woman with inflammatory ileocolonic Crohn’s disease in remission. On combination therapy with infliximab+azathioprine (x >1 year). Concerned about risks.
• Case 2: 47-year-old male with quiescent ulcerative colitis on azathioprine monotherapy, develops fever, cough, myalgias, + SARS-CoV-2
• Case 3: 32-year-old man with hospitalized acute severe UC, diarrhea, rectal bleeding, abdominal pain. Complicated by + SARS-CoV-2

Outline

• Risks of COVID-19 associated with inflammatory bowel disease
• Current reported cases of COVID-19 in IBD patients
• Medications associated with COVID-19 complications
  – Update from the SECURE-IBD Registry
  – American Gastroenterological Association (AGA) Clinical Practice Update on IBD during COVID-19
  – European Crohn’s and Colitis Organization Statement
• Discussion of NYC experience of COVID-19 in IBD patients (Dr. Axelrad)
• Case wrap-up (Dr. Axelrad)

Risks of COVID-19 Specific to IBD

• Management of IBD often involves immunosuppressive therapies
• Known increased risk of some specific viral infections with IBD therapies (particularly steroids, thiopurines, MTX, JAK)
  – Influenza
  – Herpes zoster
• Increased exposures for patients due to IBD requirements
  – Infusion centers
  – Endoscopic procedures
  – Blood draw centers
• Pathophysiology (in theory): ileum and colon express ACE2 and TMPRSS2, which may be associated with viral entry
  – Patients with IBD do not have higher expression during inflammation
  – Medical therapy is associated with lower levels of ACE2

Methods: SECURE-IBD

• Surveillance Epidemiology of Coronavirus Under Research Exclusion for Inflammatory Bowel Disease (SECURE-IBD) is an international registry of IBD patients who have had COVID-19
• Health care providers invited to report cases on a web-based platform
• Cases reported after a minimum of 7 days from symptom onset and sufficient time has passed to observe the disease course
• Data collected include demographics, IBD type, comorbidities, disease activity (by physician global assessment), BMI, smoking, and IBD medications
• Primary outcome: severe COVID-19, defined as composite of ICU admission, ventilator use, and/or death
• Multivariable logistic regression estimated the independent effects of each factor

Cases: How would you manage?

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• Case 2: 47-year-old male with quiescent ulcerative colitis on azathioprine monotherapy, develops fever, cough, myalgias, + SARS-CoV-2
• Case 3: 32-year-old man with hospitalized acute severe UC, diarrhea, rectal bleeding, abdominal pain. Complicated by + SARS-CoV-2

Note: Discussion of case management led by NYC front line gastroenterologist: Jordan Axelrad MD, MPH
Outcomes by Age

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Total N</th>
<th>Outpatient only N (%)</th>
<th>Hospitalized N (%)</th>
<th>Death N (%)</th>
<th>ICU/Ventilator/Death N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>525</td>
<td>353 (67)</td>
<td>161 (31)</td>
<td>16 (3)</td>
<td>37 (7)</td>
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<tr>
<td>Age Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>0-9 years</td>
<td>3</td>
<td>3 (100)</td>
<td>0 (0)</td>
<td>0 (0)</td>
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<tr>
<td>10-19 years</td>
<td>26</td>
<td>23 (88)</td>
<td>3 (12)</td>
<td>0 (0)</td>
<td>0 (0)</td>
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<tr>
<td>20-29 years</td>
<td>116</td>
<td>93 (80)</td>
<td>23 (20)</td>
<td>0 (0)</td>
<td>2 (2)</td>
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<tr>
<td>30-39 years</td>
<td>108</td>
<td>87 (81)</td>
<td>20 (19)</td>
<td>0 (0)</td>
<td>2 (2)</td>
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<tr>
<td>40-49 years</td>
<td>95</td>
<td>64 (67)</td>
<td>31 (33)</td>
<td>2 (2)</td>
<td>5 (5)</td>
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<tr>
<td>50-59 years</td>
<td>74</td>
<td>45 (61)</td>
<td>29 (39)</td>
<td>3 (4)</td>
<td>11 (15)</td>
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<tr>
<td>60-69 years</td>
<td>54</td>
<td>30 (56)</td>
<td>24 (44)</td>
<td>3 (6)</td>
<td>6 (11)</td>
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<tr>
<td>70-79 years</td>
<td>24</td>
<td>7 (29)</td>
<td>17 (71)</td>
<td>2 (8)</td>
<td>3 (13)</td>
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<tr>
<td>≥80 years</td>
<td>23</td>
<td>9 (39)</td>
<td>14 (61)</td>
<td>6 (26)</td>
<td>6 (26)</td>
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</tbody>
</table>

Outcomes by Medication Class

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Total N</th>
<th>Outpatient only N (%)</th>
<th>Hospitalized N (%)</th>
<th>Death N (%)</th>
<th>ICU/Ventilator/Death N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfasalazine/5ASA</td>
<td>117</td>
<td>60 (51)</td>
<td>57 (49)</td>
<td>9 (8)</td>
<td>20 (17)</td>
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<tr>
<td>Budesonide</td>
<td>18</td>
<td>9 (50)</td>
<td>9 (50)</td>
<td>1 (6)</td>
<td>3 (17)</td>
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<tr>
<td>Steroids</td>
<td>37</td>
<td>11 (30)</td>
<td>26 (70)</td>
<td>4 (11)</td>
<td>9 (24)</td>
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<tr>
<td>6MP/AZA/MTX</td>
<td>53</td>
<td>23 (45)</td>
<td>24 (48)</td>
<td>1 (2)</td>
<td>3 (6)</td>
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<tr>
<td>Methotrexate</td>
<td>5</td>
<td>2 (40)</td>
<td>3 (60)</td>
<td>0 (0)</td>
<td>0 (0)</td>
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<tr>
<td>Anti-TNF without 6MP/AZA/MTX</td>
<td>176</td>
<td>150 (85)</td>
<td>25 (14)</td>
<td>1 (1)</td>
<td>4 (2)</td>
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<tr>
<td>Anti-TNF + 6MP/AZA/MTX</td>
<td>52</td>
<td>32 (62)</td>
<td>20 (38)</td>
<td>2 (4)</td>
<td>5 (10)</td>
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<td>Anti-integrin</td>
<td>50</td>
<td>34 (68)</td>
<td>16 (32)</td>
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<td>3 (6)</td>
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<td>IL-12/23 inhibitor</td>
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<td>51 (93)</td>
<td>4 (7)</td>
<td>0 (0)</td>
<td>1 (2)</td>
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<td>JAK inhibitor</td>
<td>8</td>
<td>7 (88)</td>
<td>1 (13)</td>
<td>1 (13)</td>
<td>1 (13)</td>
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Multivariable Analysis

<table>
<thead>
<tr>
<th>Variable (Referent group)</th>
<th>ICU/Vent/Death</th>
<th>Odds Ratio (95% CI)</th>
<th>P</th>
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<tbody>
<tr>
<td>Age</td>
<td></td>
<td>1.04 (1.01-1.06)</td>
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<tr>
<td>Male (Female)</td>
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<td>1.20 (0.55-2.60)</td>
<td>0.65</td>
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<tr>
<td>Sulfasalazine/5ASA</td>
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<td>0.76 (0.51-1.14)</td>
<td>0.14</td>
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<tr>
<td>Steroids</td>
<td></td>
<td>1.14 (0.49-2.86)</td>
<td>0.79</td>
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<tr>
<td>6MP/AZA/MTX</td>
<td></td>
<td>1.07 (0.20-5.53)</td>
<td>0.96</td>
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<tr>
<td>Corticosteroids (none)</td>
<td></td>
<td>1.06 (0.21-4.88)</td>
<td>0.96</td>
</tr>
<tr>
<td>Current smoker</td>
<td></td>
<td>1.06 (0.21-4.88)</td>
<td>0.96</td>
</tr>
<tr>
<td>BMI ≥30</td>
<td></td>
<td>1.03 (0.45-2.38)</td>
<td>0.98</td>
</tr>
<tr>
<td>Comorbidities (none)</td>
<td></td>
<td>1.03 (0.45-2.38)</td>
<td>0.98</td>
</tr>
<tr>
<td>5-ASA/sulfasalazine (none)</td>
<td></td>
<td>0.87 (0.18-4.07)</td>
<td>0.93</td>
</tr>
<tr>
<td>Prior IBD</td>
<td></td>
<td>1.00 (0.21-4.88)</td>
<td>0.98</td>
</tr>
</tbody>
</table>

Recent updates SECURE-IBD (5/12/2020)

- 1,074 cases reported from 42 different countries

Recommendations for IBD During COVID-19 Pandemic: IOIBD

- Statements based on expert opinion in the absence of definitive data
- Steering committee developed survey, voting across membership, consensus reporting

AGA Practice Update: Management of IBD with COVID-19

- IAAM - AGA/ACG (2020)
AGA Practice Update: Evaluation of IBD Relapse

- Confirm inflammation by non-endoscopic approach (fecal calprotectin, lactoferrin, CRP)
- Is there sufficient drug present? (levels, etc.)
  - Confirm adherence
- If mild activity of IBD -> consider topical therapies, oral budesonide, symptomatic therapies
- If moderate to severe activity of IBD -> treat as normal, but consider avoiding thiopurines, MTX, tofacitinib

ECCO Report on IBD During COVID-19

- Immunosuppressive and biological drugs should not be discontinued as a preventive strategy in IBD patients without symptoms suggestive of COVID-19
- SARS-CoV-2 testing should not be performed in IBD patients without symptoms suggestive of COVID-19
- All physicians should use protective aids (e.g. gloves, masks, and disinfectants) during outpatient visits
- Physicians should discourage all non-essential travel and recommend protective aids to their patients during daily life activities
- Non-urgent outpatient visits should be postponed while the start of new biological drugs should be allowed if the IBD center/hospital can guarantee adequate protective measures
- ** Further research needed to address specific medications

COVID-19 Patient Education

- Social distancing
  - Keeping out of crowded settings, avoiding mass gatherings and maintaining distance (approximately 6 feet) from others when possible

Summary

- Approximately 1000 cases of COVID-19 in IBD patients
  - IBD itself does not convey increased risks
  - Inflammation does not increase expression of ACE2 and TMPRSS2
- Factors associated with severe COVID-19 complications
  - Steroids dramatically increase risks
  - Comorbidities and age increase risks
- Current recommendations for medical management of IBD during COVID-19 pandemic
  - Continue medications for IBD to prevent relapse
  - Should COVID-19 develop, consider discontinuation of therapy, particularly steroids, thiopurines, MTX, tofacitinib and supportive management
  - With relapse in an IBD patient, consider COVID-19 or other infectious etiologies, evaluate non-invasively if possible (fecal testing, etc.)

IBD and COVID-19: Insights from New York City

Jordan Axelrad, MD, MPH
Assistant Professor of Medicine
Division of Gastroenterology and Hepatology
NYU School of Medicine
@DrJordanAxelrad
Jordan.Axelrad@nyu.edu
COVID-19 in immune-mediated inflammatory diseases at NYU

N = 86, rheumatoid arthritis, IBD (n=37), psoriasis, psoriatic arthritis, ankylosing spondylitis

- March 3 to April 3
- 59 PCR confirmed SARS-Cov-2 infections
- Median age = 46, 49% Female
- 72% on a biologic or JAK inhibitor
- 16% were hospitalized

Baseline Medication Use Adjusted OR [95%CI]

Hydroxychloroquine 1.43 [1.04, 1.97]
Methotrexate 1.37 [1.06, 1.78]
Oral corticosteroids 1.40 [1.01,1.93]

Hospitalized patients were older and more likely to have comorbidities

Overall hospitalization rate in immune-mediated inflammatory diseases was consistent with similarly aged COVID-19 patients in the general NYC population

COVID-19 in patients with IBD: The NYU IBD experience

- Case series of patients with IBD and confirmed or suspected symptomatic COVID-19 from March 3 to May 10
- High suspicion: Any patient residing in the NYC area with new fever or a known positive contact plus one or more respiratory symptoms that could not be confirmed given restricted outpatient SARS-Cov-2 testing

Total n=83

Positive SARS-CoV-2 testing 45 (54%)
Age (median, IQR) 35 (27-45)
Male 44 (53%)
Non-white Hispanic 30 (30%)
9 (11%)
Crohn's disease 56 (67%)
Ulcerative colitis 27 (33%)
IBD activity Remission- Mild Moderate-Severe 56 (67%) 20 (24%)
IBD medication use 5-ASA 13 (16%) Immunomodulators 10 (12%) Corticosteroids 10 (12%) Biologics 10 (12%) Vedolizumab 5 (6%) Anti-TNF 10 (12%) Tofacitinib 5 (6%) Methotrexate 10 (12%) Ustekinumab 10 (12%) Subcutaneous 5 (6%)

COVID-19 Characteristics

COVID-19 symptoms Fever 55 (66%) Cough 46 (55%) Pharyngitis 21 (25%) Diarrhea 26 (31%) Dysphagia 19 (23%) Anosmia 18 (22%) Arthritis 25 (30%) Shortness of breath 21 (25%)
Days of symptoms (median, IQR) 11 (5-15)
Hospitalization 17 (20%)
ICU with intubation 5 (6%)
Death 1 (1%)
Days of follow up (median; range) 52 (11-72)

IBD and COVID-19 patients requiring hospitalization at NYU

- ASUC complicated by COVID-19
  - Steroids? Anti-TNF? Cyclosporine?
- Miscarriage in IBD complicated by COVID-19
  - COVID-19? ASUC? Medications? All of above?
COVID-19 in patients with IBD at NYU: Updated Data through May 15

- Surveyed: 1128
- Responded: 308 (27% response rate)
- Confirmed/suspected COVID-19: 96
- Hospitalized: 1
- Cross sectional confirmed/suspected COVID-19 prevalence 31%
- Hospitalization rate: 1%

- Many biases in this survey data
- Clear associations with: Age, sex, comorbidities, steroids, active disease
- No clear association with baseline biologic or small molecule exposure with severe COVID-19 outcomes

Back to the cases....

  - Society recs: Continue IBD meds in absence of SARS-CoV-2
  - In practice: Consider discontinuation of immunomodulators in select cases, especially MTX

- Case 2: 47-year-old male with quiescent ulcerative colitis on azathioprine monotherapy, develops fever, cough, myalgias, + SARS-CoV-2.
  - Society recs: Discontinue immunomodulators (and biologics) for 2 weeks, supportive care, restart after symptom resolution and 2 nasopharyngeal PCR tests are negative
  - In practice: Follow clinical course based on risk profile; consider resumption after near resolution or minimal respiratory symptoms, consider confirmation of convalescent phase of illness (IgG positive, IgM negative)

  - Society recs: Limit steroids, escalate to biologic vs cyclosporine, surgical consultation, VTE ppx
  - In practice: Early biologic or cyclosporine, very close monitoring

How to Receive CME and MOC Points

LIVE VIRTUAL GRAND ROUNDS WEBINAR
ACG will send a link to a CME & MOC evaluation to all attendees on the live webinar.

ABIM Board Certified physicians need to complete their MOC activities by December 31, 2020 in order for the MOC points to count toward any MOC requirements that are due by the end of the year. No MOC credit may be awarded after March 1, 2021 for this activity.

ACG will submit MOC points on the first of each month. Please allow 3-5 business days for your MOC credit to appear on your ABIM account.

MOC QUESTION

If you plan to claim MOC Points for this activity, you will be asked to: Please list specific changes you will make in your practice as a result of the information you received from this activity.

Include specific strategies or changes that you plan to implement.

THESE ANSWERS WILL BE REVIEWED.
ACG Virtual Grand Rounds

Week 9: Positioning of Old and New Therapies in IBD
David T. Rubin, MD, FACG
May 21, 2020 at Noon EDT

Week 10: Colorectal Cancer Screening in a Post Covid World
Renee L. Williams, MD, MHPE, FACG
May 28, 2020 at Noon EDT

Visit gi.org/ACGVGR to Register

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