Supplement Article

Care of the Patient With IBD Requiring Hospitalisation During the COVID-19 Pandemic

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Abstract

The management of IBD has been highly affected in the context of the COVID-19 pandemic, with restriction of hospitalisations and unprecedented redeployment of health care resources. Hospital admissions of IBD patients should be limited to reduce the risks of coronavirus transmission. However, delaying hospitalisation of IBD patients with severe or complicated disease may increase the risk of poor outcomes. Delaying surgery in some cases may increase the risk of disease progression, postoperative morbidity, and disease complications. IBD patients who are infected with SARS-CoV-2 may have a higher risk of poor outcomes than the general population, potentially related to concomitant medications, especially corticosteroids. There is no evidence today that IBD patients with COVID-19 have worse outcomes if they receive immunosuppressant medications including thiopurines, biologics, and novel small molecules. This article summarises recommendations by the international membership of IOIBD regarding hospitalisations of IBD patients, either for active or complicated IBD or for severe COVID-19, and for management of IBD patients according to SARS-CoV-2 infectious status.

Key Words: SARS-CoV-2; inflammatory bowel disease; hospitalisation; COVID-19; IOIBD.

1. Introduction

The COVID-19 pandemic has led to restriction of hospitalisations and unprecedented redeployment of health care resources. The management of inflammatory bowel disease (IBD) has been highly affected. On the one hand, hospital admissions of IBD patients should be limited to reduce the risks of coronavirus transmission between hospitalised patients and to ensure that there is inpatient capacity to look after the many admissions with COVID-19. On the other hand, delaying hospitalisation of IBD patients with severe or complicated disease may increase the risk of poor outcomes. Surgery is also seriously affected in the present context. A number of emergencies require surgery in the short term, and delaying surgery in some cases may increase the risk of disease progression, postoperative morbidity, and disease complications. Performance of endoscopic procedures is also affected, with significant delays to routine endoscopy. In this context, we have developed recommendations regarding hospitalisations of IBD patients, either for active or complicated IBD, or for severe COVID-19, and for management of IBD patients according to SARS-CoV-2 infectious status. These recommendations are based on expert opinion and the
limited evidence that has been published in this area. After their development, the recommendations were reviewed by the membership of the International Organization for the Study of Inflammatory Bowel Disease [IOIBD]. These recommendations should be read in conjunction with other IOIBD recommendations in this issue of the Journal of Crohn's and Colitis.

IBD patients do not appear to have an increased risk of being infected with SARS-CoV-2. However, IBD patients who are infected with SARS-CoV-2 may have a higher risk of poor outcomes than the general population. This increased risk may be driven by concomitant medications, especially corticosteroids, but may also be associated with gastrointestinal inflammation, IBD itself, or associated comorbidities. Additional risk factors for poor outcomes from COVID-19 include older age, pre-existing cardiovascular and respiratory disease, obesity, diabetes, and cigarette smoking. Although the use of immunosuppressing medications, such as thiopurines, and of biologics has been associated with increased risks of a range of infections in IBD patients, at this point there is no evidence that IBD patients with COVID-19 have worse outcomes if they receive these drugs.

Which IBD drugs should be preferentially used to induce response or remission in patients with active IBD during the COVID-19 pandemic is unclear. There is even less evidence on how IBD patients with active disease should be treated according to their COVID-19 infectious status. Manifestations and outcomes from COVID-19 infection are related to host defence responses. The hyperinflammatory response may lead to organ failures associated with a cytokine 'storm', characterised by high levels of proinflammatory cytokines, such as tumour necrosis factor [TNF] and several interleukins and chemokines. Immunomodulation of this hyperinflammatory state is currently being explored, and there are several clinical trials in COVID-19 patients of immunomodulators or targeted therapies. It is possible that even if immunomodulators suppress viral immunity, they may exert a beneficial effect by controlling the hyperinflammatory state.

COVID-19 can cause diarrhoea and abdominal pain and may mimic an IBD flare. The virus can infect the gut, as demonstrated by a positive SARS-CoV-2 viral nucleocapsid positive staining in digestive biopsies. It is currently unknown if SARS-CoV-2 can cause relapse of or de novo IBD.

A striking characteristic of severe COVID-19 infections is the predisposition to develop thromboembolic complications. Given that IBD patients are already at risk, anticoagulation prophylaxis should be adapted to each situation. These recommendations, based on our limited current knowledge on COVID-19, will be updated over time. They should be interpreted in the context of the prevalence of COVID-19 in your community, availability of health care resources including personal protection equipment, available personnel, and local regulations or policies related to the pandemic.

2. Proposed statements

2.1. Criteria for admission

a. Patients with severe or complicated disease or with emergencies should be evaluated and admitted as before the pandemic. Patients who are less active, but who would under usual circumstances be admitted for medically resistant disease, should not be electively admitted at this time.

b. If available, rapid access outpatient evaluation and outpatient treatment escalation is preferable. When appropriate and available, telemedicine options should be used [refer to the IOIBD Telemedicine guidance document].

c. Patients with IBD and COVID-19 should be admitted based on considerations of the severity of the COVID-19 and the severity of the IBD.

d. Bypassing the emergency room, with direct admission to the hospital ward, is preferable. However, this will depend on admission protocols in place at individual hospitals.

e. Depending on institutional policy and availability, testing for SARS-CoV-2 may be required prior to needed inpatient endoscopic, radiological or surgical procedures, as even asymptomatic patients with SARS-CoV-2 infection may be at risk for postoperative intensive care unit [ICU] care and mortality and are at risk for infecting others.

f. Ideally, and when possible, testing for SARS-CoV-2 should be performed before admission. We recommend admission of the patient into a single room until the result of testing for SARS-CoV-2 is available.

2.2. Evaluation for COVID-19

a. Patients suspected of having COVID-19 should be tested for SARS-CoV-19 in the nasopharynx. Serological antibody testing may also be used, provided that this testing is both accurate and has clinical relevance. Testing for SARS-CoV-2 is evolving, and it is currently unclear which test will be best.

b. If testing for SARS-CoV-2 is negative, or if the patient is considered as immune, the patient can be admitted to a COVID-free unit.

c. Patients positive for SARS-CoV-19 or suspected to have COVID-19 should be isolated in a negative pressure room, and ideally admitted to a specific unit. Health care workers should use appropriate PPE and follow local infection control guidelines.

d. It is unknown if SARS-CoV-2 can cause relapse of or de novo IBD.

e. Universal stool testing for SARS-CoV-2 is not recommended at this time.

2.3. Diagnostic considerations

a. Laboratory investigations should be chosen and used to minimise need for interventions and to limit those that will directly influence medical or surgical management, with mindfulness on laboratory resource utilization.

b. Radiological procedures should be limited to those that are urgently needed or will directly influence management, eg, abdominal X-ray [AXR], computerized tomography [CT], or magnetic resonance imaging [MRI], to evaluate for abscess or obstruction. In the current environment, CT may be preferred over MR due to faster acquisition time and easier deep cleaning of equipment.

c. Endoscopic procedures should be limited to those that are urgently needed or will directly influence management. Serum and stool biomarkers may have a more prominent role to play in this setting. [refer to IOIBD Endoscopy guidance document].
2.4. Considerations for treatment of IBD in a patient with SARS-CoV-2

a. Table 1 is a summary of treatment considerations based on IBD and COVID-19 severity. This table is mainly based on expert opinion and published recommendations from professional bodies.

b. Choice of IBD therapies in this setting must be considered in the context of the severity of the COVID-19.

c. In cases of moderate-severe COVID-19, discontinuation of IBD therapies must be discussed case by case, according to IBD activity and treatment. Interestingly, some treatments such as steroids and even some biologics are considered and even assessed in ongoing clinical trials in the second phase of COVID-19 [the so called cytokine storm].

d. Given the standard of practice for all hospitalised IBD patients and the emerging understanding of hypercoagulability associated with severe COVID-19, patients with COVID-19 and active IBD require specific attention regarding anticoagulation prophylaxis. Doses of heparin required should be in line with current recommendations, considering both IBD and COVID-19 risks.

e. Patients with persistent hypoxia (O₂ saturation <90% on nasal cannula [NC] at 6 L/min), rapid worsening of hypoxia, or altered mental status require ICU management.

2.5. Treatment of the IBD patient hospitalised for medically resistant disease [and without COVID-19]

a. Given the risk of COVID-19 in the community or even in the hospital, choices of therapy should be based on combination of efficacy, safety, speed of onset, and limitation of need for outpatient monitoring once discharged.

b. Length of stay should be minimised but should not compromise successful disease control.

c. In addition to standard medical therapies, exclusive enteral nutrition [EEN] can be considered in patients with Crohn’s disease, particularly as an alternative to systemic steroids in those with moderate disease. Close support from a dietician is likely to improve acceptability and tolerance of this approach.

2.6. Surgery [refer to IOIBD Surgery guidance document]²⁸

a. Colectomy for severe/fulminant ulcerative colitis [UC]

Although surgical societies have recommended that elective surgical cases be postponed, surgery for imminently life-threatening conditions such as medically refractory severe UC [or cancer development] should continue as clinically indicated.²⁹ This minimises the risk to both patient and health care team, as well as minimising use of necessary resources such as beds, ventilators, and personal protective equipment [PPE].

b. Surgery for IBD patients with dysplasia or cancer should be delayed at the current time and rescheduled when resources are available. Delays should be minimised as much as possible within the limits of available resources. Clinicians should maintain accurate records of deferred procedures and should prioritise these patients once surgical slots become available.

c. Treatment of perianal disease and/or perianal sepsis in Crohn’s disease [CD]

i. Surgery for asymptomatic perianal fistulas should be postponed. Setons can remain in place. Seton removal alone in patients on biologic therapy should be reconsidered in order to minimise recurrent abscess formation and need for further hospitalisation.

ii. For small perianal abscesses, it is reasonable to try a short course of antibiotic therapy before surgery. However, the role of oral antibiotic therapy alone versus surgical drainage for small abscesses in these patients is unknown.

iii. The presence of a large or complex perianal abscess in the CD patient requires surgery and should not be delayed.

d. Surgery for CD

i. Bowel obstruction

1. Modification of nasogastric [NG] suctioning handling. As the virus has been isolated from multiple cells and body fluids, including enteric contents,³⁰ placement and handling of NG tubes should be performed by care members donning appropriate PPE, including gowns and face shields.

2. CD patients with intestinal obstruction not improving with medical therapy require surgery, including stricturoplasty and/or resection with primary anastomosis.

3. The value of performing a stoma routinely in these cases, although advised by some societies to reduce need for unplanned postoperative critical care for complications,²¹ is of uncertain benefit.

ii. Intra-abdominal abscess

1. Treat with standard approach to drainage of the abscess, bowel rest, and antibiotic therapy.

2. When needed, surgery in this situation should not be delayed.

2.7. Exclusion of visitors in the hospital during hospitalisation or recovery

Most hospitals are not allowing visitors in any patient care areas, exceptions being one caregiver for patients under the age of 18. The social and emotional impacts of these policies on the IBD patient requiring hospitalisation or facing surgery are formidable. Efforts should be made to communicate with family and to encourage video conferencing with family and patients when possible.

2.8. Conclusions

In conclusion, the usual management of IBD is strongly affected by the COVID-19 pandemic, and must be adapted over time according to the local situation and prevalence of COVID-19. The objectives of these recommendations are to reduce the risks of contamination, to provide an optimal management of COVID-19 in IBD patients, and to best manage IBD according to SARS-CoV-2 infectious status. These recommendations, based on our limited current knowledge on COVID-19, will be updated over time according to a better knowledge of the disease.
### Table 1. Considerations of the treatment of IBD in the setting of COVID-19.

| NO SARS-CoV-2 | SARS-CoV-2 positive, but NO COVID-19 | Mild COVID-19 | Moderate COVID-19 |
|---------------|--------------------------------------|---------------|------------------|
|               |                                      | Not hospitalised | Hospitalised with SpO₂ >94% and no evidence of pneumonia | Hospitalised with hypoxia OR radiographic evidence of pneumonia OR Severe COVID-19 |
|               |                                      |               | Patient requiring mechanical ventilation +/- pressors or evidence of end organ damage |

#### IBD remission
- Taper or discontinue prednisone
- Continue all other IBD meds
- If IBD stable, wait for 2 weeks for COVID-19 to present or until convalescent titres of SARS-CoV-2 develop
- Taper or discontinue prednisone
- Discontinue biologic therapies
- Restart IBD therapy when COVID-19 resolves [symptoms and when validated, serological testing of convalescent titres of SARS-CoV-2 immunity]
- **Patients with moderate COVID-19 should be hospitalised with hypoxia OR radiographic evidence of pneumonia OR severe COVID-19 requiring mechanical ventilation +/- pressors or evidence of end organ damage**

#### IBD mildly active
- Treat with any IBD therapies necessary
- Limit use of oral or IV steroids to shortest time possible, choose alternatives when possible
- If IBD stable, wait for 2 weeks for COVID-19 to present or until convalescent titres of SARS-CoV-2 develop
- If treatment needed, budesonide, 5-ASA, rectal therapies ok
- **Prophylaxis against VTE if hospitalised**
- **Limited use of corticosteroids ≤40 mg/d if necessary**
- **Avoid thiopurines, MTX, tofacitinib**
- **Escalate to biologic therapies as needed**
- **If hospitalised, consider IV cyclosporine for UC, given limited evidence of benefit against coronavirus**
- **Prophylaxis against VTE for IBD**

#### IBD moderately-severely active
- Treat with any IBD therapies necessary
- Limit use of oral or IV steroids to shortest time possible, choose alternatives when possible
- Prophylaxis against VTE [if hospitalised]
- Limited use of corticosteroids ≤40 mg/d if necessary
- Avoid thiopurines, MTX, tofacitinib
- Escalate to biologic therapies as needed
- If hospitalised, consider IV cyclosporine for UC, given limited evidence of benefit against coronavirus
- **Prophylaxis against VTE for IBD**
- **If hospitalised, consider IV cyclosporine for UC, given limited evidence of benefit against coronavirus**
- **Prophylaxis against VTE for IBD only as absolutely needed. Consider cyclosporine for UC, given limited evidence of benefit against coronavirus**
- **Focus on life support and if available, treatment of COVID-19 with antiviral or other anti-inflammatory/anticytokine therapies**

Med, medication; IBD, inflammatory bowel disease; SpO₂, oxygen saturation; MTX, methotrexate; VTE, venous thromboembolism; IV, intravenous; 5-ASA, 5-aminosalicylic acid; UC, ulcerative colitis.
3. Questions which should be addressed and/or resolved in the near future

- What will be the global impact of reduced IBD hospitalisations and delayed surgery during the Covid-19 pandemic?
- How should we best organise the testing for SARS-CoV-2 in IBD patients requiring hospitalisation? Is SARS-CoV-2 serology useful in this context? Is SARS-CoV-2 serology valid also in patients receiving immunosuppressants?
- Can SARS-CoV-2 be involved in relapse of or de novo IBD? Are there long-term effects of Covid-19 in IBD patients?
- Are IBD patients at increased risks of Covid-19 infection? Are Covid-19 infections more severe in IBD patients?
- Are there specific risks which could be attributed to the different IBD drugs, including steroids, immunosuppressive/modulators?
- How should we best treat active IBD in the context of the Covid-19 pandemic?
- How should we best treat active IBD in patients with Covid-19 infection?
- How should be best prevent thrombosis in patients with IBD and COVID-19?

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Conflict of Interest

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Author Contributions

The authors have made substantial contributions to all of the following: the concept and design of the study, drafting the article or revising it critically for important intellectual content, and final approval of the version to be submitted.

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