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Alimentary Tract

Screening for active COVID-19 infection and immunization status prior to biologic therapy in IBD patients at the time of the pandemic outbreak



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ABSTRACT

Coronavirus disease 2019 has been recently classified as pandemic infection by the World Health Organization. Patients with inflammatory bowel disease (IBD) are invited to follow the national recommendations as any other person. It is unclear whether a more aggressive clinical course might develop in asymptomatic COVID-19 infected subjects during biological therapy and current evidence does not support treatment suspension. However, during pandemic, the start of treatment with immunosuppressive drugs and biologics should be postponed whenever possible and based on an individual risk assessment. When clinical conditions and the disease activity do not allow a treatment delay, before starting a biological therapy, screening of IBD patients for COVID-19 active infection by RT-PCR should be advisable, even in absence of clinical suspicion. Serum antibody testing, when available, could provide evidence of infection as well as identify patients already immune to the disease.

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Coronavirus disease 2019 has been recently classified as a pandemic infection by the World Health Organization and it can present with different clinical manifestations: as an asymptomatic carrier state, acute respiratory disease, and pneumonia. Adults represent the population with the highest infection rate, with severe clinical courses and deaths being more likely in older patients with underlying comorbidities compared to mild cases [1]. Also, male gender seems to be at higher risk of morbidity and mortality. Due to the rapid spread of the disease, governments and the medical community are taking measures to prevent transmission, from common sense recommendations to radical quarantine measures [2]. Accumulating evidence shows that patients with COVID-19 infection may also experience gastrointestinal symptoms, including diarrhea, nausea, vomiting and abdominal discomfort prior to the common respiratory symptoms [3,4]. The potential clinical implications are relevant as COVID-19 may have an impact on bowel function and may increase the risk of transmission through the faecal–oral route [4]. To corroborate, recent studies found that in more than 20% of SARS-CoV-2 patients the viral RNA remained positive in feces even after negative conversion of the viral RNA in the respiratory tract, indicating that the gastrointestinal viral infection and the potential fecal–oral transmission can last even

after viral clearance in the respiratory tract [4]. In keeping, it has been recommended that rRT-PCR testing for SARS-CoV-2 from feces should be performed routinely in SARS-CoV-2 patients, and Transmission-Based Precautions for hospitalized SARS-CoV-2 patients should continue if feces test positive by rRT-PCR testing.

However, the impact of the COVID-19 on chronic relapsing gastrointestinal disease is unknown. Patients with inflammatory bowel disease (IBD) are invited to follow the national recommendations as any other person. Elective outpatients clinics should be reorganized by institution of telemedicine services, patients should continue their medications and access to infusion centres be retained, assuming actions to avoid infection outbreaks are taken in place. Current recommendation suggests postponing the start of treatment with immunosuppressive drugs and biologics, whenever possible, based on an individual risk assessment during the COVID-19 pandemic [5–7]. However, since postponing the drug start is not always possible depending on the clinical activity of the patients, particular measures should be considered in order to reduce COVID-19–related risks. A viral screen is commonly suggested before starting biologics [8] due to the higher risk of serious and opportunistic infections in IBD patients [9–11], that becomes particularly high in patients older than 50 years [12,13].

Since it is expected that a same higher risk might occur in SARS-CoV-2, we believe that, at least temporarily, there is an urgent need to update the current recommendations for pre-biological screening [14]. Although there is no data showing that

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Table 1

Suggested pre-biologic screening during COVID-19 pandemic outbreak.

Hepatitis B virus, hepatitis C virus, Human immunodeficiency virus and varicella zoster virus (in patients without clear history of prior infection or prior vaccine)
Tuberculosis screening through combination of clinical risk stratification, chest x-ray and interferon-gamma release assays.
History of specific infections, including herpes simplex virus (oral, genital), varicella zoster virus (chicken pox, shingles), tuberculosis
Immunisation status for BCG, diphtheria, tetanus, pertussis, <i>haemophilus influenzae</i> type b, polio, meningococcus, measles, mumps, rubella, pneumococcus, human papillomavirus, rotavirus, influenza, varicella zoster virus/shingles
COVID-19 RT-PCR from nasopharyngeal and/or throat swab specimens; immunization status for COVID-19 (serum IgM/IgG by immunoassay)

immunosuppressive/immunomodulatory therapies are associated with poor prognosis of COVID-19 infection and immunomodulation is likely to be beneficial in a subgroup of severe COVID-19 with hyper-inflammatory syndrome as suggested by recent uncontrolled data [15], a more aggressive clinical course might develop in asymptomatic COVID-19 infected subjects starting biological therapy. Moreover, inhibiting anti-viral immunity by broad immunosuppression could delay virus clearance and perpetuate symptoms and illness [16].

Given the uncertainties linked to the rapid and global COVID-19 outbreak it is clear that efforts should be focused on the best care we can provide to our IBD patients in general and particularly to those under immunosuppressive/ immunomodulatory treatment [5]. These patients might have higher viral load, prolonged viral shedding and impaired antibody response. Raised serum antibodies against nucleoprotein (NP) and spike protein receptor binding domain (RBD) of SARS-CoV-2 have been shown in most patients at 10 days or later after symptoms onset with a correlation between antibody response and neutralising antibody titre [17]. Detecting serum IgM and IgG antibodies can provide historic information about viral exposure as well as diagnostic evidence.

Knowledge of virus dynamics and host response is crucial to fully evaluate the impact of immunosuppressive therapies on the clinical course of COVID-19 in IBD patients and to provide management guidance to healthcare professionals.

In conclusion, before starting biological therapy, until new data will be available, using a pragmatic approach, the physician should screen all patients for active COVID-19 by RT-PCR, even without clinical suspicion of infection. Thus, we suggest updating the common screening recommended prior to biological therapy in IBD patients (Table 1) [8] adding COVID-19 RT-PCR and, when available, antibody profile. Moreover, based on current evidence, screening for COVID-19 in patients who are receiving either biological/immunomodulatory treatments or are on conventional therapies should not be recommended and current medications maintained.

Specific author contributions

FZ, AB, ES: study concept, critical review of manuscript, drafting and finalization of manuscript

Conflict of interest

Nothing to declare.

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