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Infection (COVID-19) in Patients with Chronic Inflammatory Bowel Disease: A Case Series

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Abstract

COVID-19 is a severe acute respiratory syndrome caused by the coronavirus (SARS-CoV-2) that was described in China in late 2019 and led to a global pandemic [1].

The devastating effect of this infection is due to its high contagion, although mild forms predominate, severe cases and mortality are very high especially in patients with comorbidities and immunosuppression, raising the question of infection in patients with IBD who are often impaired and on immunosuppressants or anti-TNF. Due to the recent nature of the infection and the shortage of studies, we considered it interesting to share our IBD experience through a series of eight IBD patients who presented with coronavirus infection.

Keywords:

COVID-19; SARS-CoV-2; chronic inflammatory bowel diseases.

Introduction:

Severe acute respiratory syndrome coronavirus (SARS-number of cases increased dramatically in a short period of time to become a covid pandemic.

Coronaviruses are single-stranded RNA viruses that can rapidly mutate, change tissue tropism, and adapt to different epidemiological conditions [2,3]. COVID-19 symptoms are more severe in patients at risk and with comorbidities [4] including those with (IBD) [5]. To date, there are limited data on these patients. Therefore, there is a need for studies to assess the risk and clinical characteristics.

Our aim is to share the experience of IBD patients infected with covid by describing their clinical, therapeutic, and evolutionary characteristics.

Results:

Our series includes ten IBD patients infected with confirmed covid-19, including nine women and one man, with a mean age of 40 years ± 10 years [26-53 years], five patients followed for UC and five patients followed for Crohn's disease. The median duration of evolution was 6 years [4-13]. Table 1 and 2.

File number	Sex	Age	MICI	Phenotype MC 'Montreal'	Extension RCH	Duration of disease (years)	Comorbidities	Treatment of MICI
1	F	53	RCH	-	pan colitic	12	HTA	5 ASA
2	F	48	RCH	-	pan colitic	6	-	Adalimumab
3	M	45	RCH		pan colitic	5	-	Azathioprine
4	F	45	RCH		pan colitic	14	-	Azathioprine
5	F	48	RCH		pan colitic	10	-	Purinéthol 5ASA
6	F	36	MC	A2L1B2P operated	-	10	-	Azathioprine
7	F	43	MC	A3L3B2p	-	5	-	Azathioprine Infliximab
8	F	45	MC	A3L3B1		7		5 ASA
9	F	26	MC	A2L3B3p				Azathioprine
10	F	32	MC	A2L3B1p				5 ASA

Table 1: Characteristics of our IBD patients infected with covid-19.

Case number	Symptoms	Complications	Therapies for COVID-19	Evolution
1	Fever, cough, headache	Non	Antibiotics Zinc, vit C	Outpatient Good progress
2	Fever, cough	Non	Hydroxychloroquine Antibiotics	Outpatient Good progress
3	Fever, myalgia, sore throat	dyspnée	Hydroxychloroquine Antibiotics	Hospitalized Good progress
4	asymptomatic	Non	Antibiotics Zinc, vit C	Outpatient Good progress
5	Bloody, mucous diarrhea	Non	Antibiotics Zinc, vit C	Outpatient Good progress
6	Fever, cough, myalgia	Non	Hydroxychloroquine Antibiotics	Outpatient Good progress
7	Cough, myalgia,	Non	Antibiotics Zinc, vit C	Outpatient Good progress
8	Sd severe pseudo flu	Dyspnée	Hydroxychloroquine Antibiotics	Hospitalized Good progress
9	AEG	Non	Hydroxychloroquine Antibiotics	Hospitalized Good progress
10	Fever, myalgia, sore throat	Non	Hydroxychloroquine Antibiotics	Outpatient Good progress

Table 2: Clinical characteristics, complications and treatments of our IBD patients with coronavirus.

The diagnosis of COVID-19 was established by polymerase chain reaction (PCR) analysis on nasopharyngeal swabs and chest CT scans. Seven out of ten patients were treated as outpatients, it was a non-severe coronavirus infection without respiratory repercussions (normal oxygen pressure, no pneumonia or acute respiratory distress syndrome) and all were in remission from their IBD disease including two patients in remission under 5ASA: a 53-year-old patient followed for 12 years for pancolitic UC and a 32-year-old patient followed for five years for ileocolic Crohn's disease inflammatory phenotype with anoperineal lesions, two patients in remission under azathioprine this is a 36-year-old patient followed for 10 years for ileal Crohn's disease stenosing phenotype with anoperineal manifestations operated (ileal resection and flattening of an anal fistula) and a 45-year-old patient followed since 2007 for pancolitic UC under azathioprine for 03 years, a fifth patient followed for 10 years for corticosteroid-dependent pancolitic UC in remission under 6MP and 5ASA, a sixth patient in remission under adalimumab is a 48-year-old patient followed for six years for pancolitic UC, and a seventh patient in remission under azathioprine and infliximab combo therapy, this is a 43-year-old patient followed for 5 years for ileocecal Crohn's disease, stenosing phenotype with anoperineal manifestation. Three patients were hospitalized, two of them due to severe respiratory symptoms, a 45-year-old patient followed for 5 years for pancolitic UC with extradigestive axial joint manifestation in remission under azathioprine and a 45-year-old patient followed since 2013 for Crohn's disease in remission under 5ASA, both patients were treated with hydroxychloroquine and antibiotics, the evolution was favorable with resumption of azathioprine and 5ASA after negative PCR covid. The third patient was hospitalized due to a profound deterioration in general condition and a manifest inflammatory syndrome, this is a 26-year-old patient followed for 5 years for ileocolic Crohn's disease fistulizing phenotype with anoperineal manifestation in remission under azathioprine. 5ASA, immunosuppressive and anti-TNF treatments were stopped except in two out of ten patients: one was taking azathioprine and the second was on infliximab.

Discussion:

During the COVID-19 pandemic, the management of IBD patients poses diagnostic and therapeutic challenges.

Indeed, patients with COVID-19 may present with gastrointestinal symptoms such as diarrhea, abdominal pain, nausea/vomiting, anorexia that could wrongly suggest an IBD flare-up with possible inappropriate initiation of treatment that may include corticosteroids [6, 7, 8,9].

Thus, it is proposed to endoscopically document any IBD flare-up and test patients with diarrhea or bloody mucus emission [10,11]. This will help distinguish an IBD flare-up from diarrhea due to SARS-CoV-2 infection and avoid the inappropriate use of corticosteroids, immunosuppressants and biological treatments in order to prevent the progression of COVID-19 and increase the risks of opportunistic and pulmonary infections, particularly in polytherapy [12,13].

For therapeutic management, recommendations are changing and evolving rapidly to provide up-to-date information on best practices for optimal management of infected IBD patients with the aim of treating active disease and maintaining remission [14,15].

Concerning corticosteroids which are often used as first-line treatment to induce remission and manage flares, current evidence suggests that they may pose a significant risk for IBD patients with COVID-19 and that their use is associated with increased mortality and morbidity (admission to intensive care unit, ARDS, shock) mainly for patients taking high doses [16].

According to very recent studies, it is proposed to stop/reduce corticosteroids as much as possible and not to continue prednisone at doses higher than 20 mg/day in SARS-CoV-2 positive IBD patients, whether symptomatic or not [17].

For budesonide and beclomethasone, data are not currently available. Preliminary data from the SECURE-IBD registry have identified 5-aminosalicylic acids (5-ASA) as a risk for severe COVID-19 infection [18], in the absence of more detailed information, it is proposed to discontinue them in patients with confirmed infection [19].

In theory, immunosuppression may reduce viral clearance, but may also reduce the cytokine storm involved in respiratory distress syndrome [ARDS]. However, to date current evidence does not suggest that IBD patients on immunomodulatory therapy do worse than the general population, either in terms of risk of contracting the virus or disease severity [20].

On the other hand, the risk of opportunistic infection seems to be increased in these patients because these latter drugs block the intracellular signals necessary for the host to fight pathogens, and their use has been associated with lymphopenia (which is a sign of poorer COVID-19 outcomes) [21,22]. Therefore, it is thought that patients with inflammatory bowel disease may be at increased risk of SARS-CoV-2 infection with a risk of

severe clinical outcome under immunomodulatory treatment.

Therefore, we believe that immunomodulators, anti-tumor necrosis factor anti-TNF, anti-interleukins, anti-integrins and JAK inhibitors should be maintained during this pandemic and should be stopped in case of suspected or confirmed infection, they can be resumed after complete resolution of COVID-19 symptoms or, ideally, after negative PCR tests.

Conclusion:

The current outbreak of SARS-CoV-2 infection poses new challenges in the diagnosis and management of IBD patients. We propose to test all patients with diarrhea, to maintain treatment in uninfected subjects and to interrupt them in case of COVID infection.

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