Perception of COVID-19 Pandemic Among IBD Clinicians and IBD Surgeons in Black Sea Region: A Cross-Sectional Questionnaire Study

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ABSTRACT

Background: *Since December 2019, the COVID-19 pandemic has created an increasing challenge in managing inflammatory bowel disease patients both medically and surgically. Although several international and national medical/surgical associations published guidelines in this area, there is still a huge difference between daily practices and these guidelines, especially depending on regional practices and governmental policies. Therefore, we aimed to investigate and define gastroenterologists' and surgeons' fear of COVID-19 and how they have managed inflammatory bowel disease patients during this pandemic in the Black Sea region.*

Methods: *A 20-question survey was administered to 70 gastroenterology specialists and 80 general surgeons who are mainly focused on the management of inflammatory bowel disease in 5 countries in the Black Sea region.*

Results: *The majority of respondents (81.3%) mentioned that they have concerns that their inflammatory bowel disease patients were at risk of contracting COVID-19. In addition, the majority of respondents (80.3%) believed that inflammatory bowel disease itself, independent of medications, might increase the risk of contracting COVID-19. The majority of gastroenterologists told that they did not stop inflammatory bowel disease medications due to the COVID-19 pandemic unless patients had COVID-19 disease. Surgeons overwhelmingly reached a consensus on how to test patients for COVID-19 perioperatively and came to a conclusion on which of the patients cannot wait to be operated. Both gastroenterologists and general surgeons, usually have similar perceptions.*

Conclusion: *Despite the increasing number of definitive studies, it seems that there are still regional differences in the perception of COVID-19 and inflammatory bowel disease patient care during the pandemic.*

Keywords: *Inflammatory bowel diseases, COVID*

INTRODUCTION

Officially since December 2019, although the actual emergence very likely occurred months before, a new coronavirus that was named severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) by the World Health Organization (WHO) began circulating. The WHO declared COVID-19 a pandemic on March 11, 2020.[1] The rate of transmission, testing capacities, and various disease-related parameters, such as mortality and treatment approach, varied significantly among regions and countries. In addition to the climatic, demographic and cultural features of countries, and the political approach was taken by governments had significant effects on the outcome of the pandemic.

The health authorities in all countries in the Black Sea region, as in other countries, recommended the postponement of elective surgeries to preserve hospital resources and healthcare professionals needed to address the pandemic. Since it has been demonstrated that previously undiagnosed COVID-19 can complicate the postoperative recovery and increase postoperative

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complications,[2] postponing elective surgeries would also seem to be in the best interest of protecting patient health and facilitating positive surgical outcomes.

Since there is an increased risk of infections under certain circumstances in patients with inflammatory bowel disease (IBD), such as those with advanced age and those taking immunosuppressive drugs,[3-7] there is a great deal of concern regarding which drugs might increase the risk SARS-CoV-2 infection in IBD patients and the appropriate timing of surgery, if needed. Several retrospective studies have shown that IBD patients do not have an increased risk of contracting COVID-19, even if they are taking immunosuppressive medications. Since there have been no prospective studies evaluating the effect of immunosuppressive medications on COVID-19 risk or the timing of surgery in IBD patients, clinicians and surgeons act based on the published observational data, comments, and society recommendations.

Although there have been several recommendations made by numerous international organizations,[8-11] since the management of IBD is not universally standardized and differs depending on regional practices and governmental policies, gastroenterologists and surgeons ultimately have made more individual clinical decisions.

Therefore, we designed this survey to investigate and define gastroenterologists' and surgeons' fear of COVID-19 and how they have managed IBD patients during this pandemic in the Black Sea Region.

MATERIALS AND METHODS

This study was approved by Lokman Hekim University Ethics Committee with the Decision Number: 2020/036 and approved by Republic of Turkey Ministry of Health with the approval number 2020-05-07T02_16_38.

A 20-question survey was administered to 70 gastroenterology specialists and 80 general surgeons who are mainly focused on the management of IBD in 5 countries (Turkey, Russia, Azerbaijan, Bulgaria, and Ukraine), which are all in the Black Sea region. In all countries mentioned above, the COVID-19 disease diagnosis and follow-up were done through international guidelines. All questions asked in the survey were listed in supplementary Tables 1-3. Demographics of the survey responders were summarized in supplementary Table 4. Most respondents (63.8%) worked in small IBD centers (up to 500 patients). All respondent physicians and surgeons are interested in IBD. A total of 75.4% of the respondents worked in academic settings. We decided the number of physicians and surgeons who were involved in this study upon a power analysis which was performed by a statistician.

RESULTS

A total of 75.3% of the respondents strongly agreed that COVID-19 is a more severe problem than the flu. The majority of respondents (80.3%) believed that IBD itself, independent of medications, might increase the risk of contracting COVID-19. However, the percentage of gastroenterologists (72.8%) who believed that IBD might increase the risk of contracting COVID-19 was slightly lower than that of general surgeons (87.2%) ($P < .05$) (Table 1). Most of the respondents mentioned that they were using disinfectants (94%), surgical masks (96.6%), goggles (59.1%), and gloves (89.9%) when they were taking care of IBD patients. A higher proportion of surgeons than gastroenterologists reported using N95 masks (73.4% vs 54.3%, $P < .05$) (Table 2). Given that the COVID-19 pandemic affected in-person visits and face-to-face consultations, respondents were asked whether they were using telemedicine via either phone calls or video calls when conducting consultations with their patients. A total of 33.6% of the respondents said that they were using video calls, and 58.4% of them were using phone calls instead of in-person interactions with their patients. Gastroenterologists seemed to use phone calls more than surgeons (74.3% vs 44.3%, $P < .05$) (Table 2).

In total, 98.7% of the respondents either partially agreed or completely agreed that patients with COVID-19 symptoms, patients who had a positive history of travel to highly affected areas, and who had a history of contact with a patient with COVID19 should be screened for infection with SARS CoV-2. The vast majority of the respondents either partially or completely agreed (95.4%) that if there was a suspicion of infection with SARS CoV-2 and polymerase chain reaction (PCR) tests were not available, thoracic computed tomography (CT) could be helpful for diagnosing COVID-19.

The responding gastroenterologists either partially or completely agreed that IBD medications might increase the risk of COVID-19 (52.9% and 40%, respectively). The majority of the responding gastroenterologists either partially or completely agreed (75.7%) that there was a clear need to screen IBD patients receiving immunosuppressive medications for COVID-19, even if they were free from COVID-19 symptoms (Table 3).

Table 1. Differences in the Perception of COVID-19 by Physicians and Surgeons

	Gastroenterologists			General Surgeons			
	Disagree (n, %)	Partially Agree (n, %)	Agree (n, %)	Disagree (n, %)	Partially Agree (n, %)	Agree (n, %)	*P*
COVID-19 is more severe than the seasonal flu	3 (4.2)	15 (21.4)	52 (74.3)	4 (5)	15 (18.8)	61 (76.2)	.908
IBD is associated with a higher risk of COVID-19 independent of medications or surgery	19 (27.1)	33 (47.1)	18 (25.7)	10 (12.8)	31 (39.7)	37 (47.4)	**.013**
All patients should be prescreened for high-risk exposures or symptoms. This screening should include a history of fever or respiratory symptoms, family members or close contacts with similar symptoms, any contact with a patient with a confirmed case of COVID-19 (PCR and/or chest CT positivity), and recent travel to a high-risk area	1 (1.4)	12 (17.1)	57 (81.4)	1 (1.3)	5 (6.3)	73 (92.4)	.115
In case of clinical suspicion, especially when testing is not available or too slow, a CT scan of the chest should be substituted for the laboratory test	4 (5.7)	14 (20)	52 (74.3)	3 (3.8)	10 (12.7)	66 (83.5)	.380
Elective interventions, including endoscopic procedures, were postponed immediately after the diagnosis of the first case	2 (2.9)	27 (38.6)	41 (58.6)	5 (6.4)	16 (20.5)	57 (73.1)	**.043**
Multidisciplinary IBD recommendations and shared decision making should continue	0 (0)	14 (20)	56 (80)	0 (0)	8 (10.3=	70 (89.7)	.110

IBD, inflammatory bowel disease; CT, computed tomography; PCR, polymerase chain reaction.

A total of 88.6% of the responding gastroenterologists did not stop IBD medications in patients who did not have COVID-19. Of those who stopped treating IBD patients with IBD medications, 62.5% stopped treatment with systemic corticosteroids and 50% stopped treatment with either purine analogs or anti-TNF agents. In another question addressing whether physicians would hesitate to start administering medications to IBD patients during this pandemic, 52.9% of the responding gastroenterologists said that they would hesitate to start such treatments. Of those who would hesitate to start treatment, 73.7% would hesitate to start treatment with systemic steroids, 73.7% would hesitate to start treatment with purine analogs, whereas only 7.9% would hesitate to start treatment with mesalazine or budesonide (Table 4).

Table 2. Protective Measurements Taken During this Pandemic when Seeing IBD Patients

	Gastroenterologists (% Replied YES)	General Surgeons (% Replied YES)	*P*
Disinfectants	95.6	92.4	.502
Surgical masks	98.6	94.9	.371
N-95 masks when needed	54.3	73.4	**.017**
Gloves	81.4	97.5	**.002**
Goggles	55.7	62	.505
Use phone calls if possible	74.3	44.3	**<.0001**
Use video calls if possible	30	36.7	.487

IBD, inflammatory bowel disease.

According to most of the responding gastroenterologists (97.2%), elective procedures should be postponed during the pandemic. In addition, when monitoring IBD patients in the absence of elective colonoscopy, 85.7% of them would use the central blood count, 92.9% of them would use the C-reactive protein level and 80% of them would use the fecal calprotectin level.

A total of 92.5% of the surgeons either partially or completely agreed that any surgery would increase the risk of contracting COVID-19, independent of whether the patient had IBD. The majority of the responding surgeons (75%) strongly agreed that all asymptomatic patients undergoing any colorectal surgery should be screened for COVID-19. Ninety-five percent of the responding surgeons either partially or completely agreed that elective surgeries and endoscopic procedures should be

Table 3. Questions and Answers About the Effect of IBD Medications on COVID-19 and COVID-19 Testing in IBD Patients

	Disagree (%)	Partially Agree (%)	Agree (%)
IBD drugs are associated with a risk of contracting COVID-19	7.1	52.9	40
Should COVID-19 testing be performed in all asymptomatic non-IBD patients?	67.1	20	12.9
Should COVID-19 testing be performed in all asymptomatic IBD patients?	48.6	31.4	20
Should COVID-19 testing be performed in all asymptomatic IBD patients treated with immunosuppressive drugs?	24.3	24.3	51.4

IBD, inflammatory bowel disease.

postponed due to the increased risk of COVID-19, whereas 100% of the surgeons agreed to some degree that there are procedures that have a higher priority and need to be performed, such as cancer surgeries, prosthetic removals or the evaluation of significant symptoms. Acute obstruction, peritonitis, perforation, and major hemorrhage were the indications that 100% of the respondents agreed needed surgical interventions without any delay, even during the COVID-19 pandemic (Table 5).

The responding surgeons were asked which procedures could be postponed due to the pandemic, including IBD surgery in patients for whom medical treatment had failed, those with recurrent disease after surgery, those needing surgery for a fistula, for intraabdominal abscesses, for intestinal strictures, and for malignancies/prophylaxis, children in whom IBD has resulted in a failure to thrive, and those needing any surgery to increase the quality of life. The highest proportion of responding surgeons agreed that surgeries for a fistula should be postponed (83.6%), whereas the lowest proportion agreed that surgery for intraabdominal abscesses should be postponed (5.5%) (Table 6).

The vast majority of the responding surgeons agreed to some degree (98.7%) that when scheduling high-risk patients, including those with IBD, for previously postponed elective surgeries, such patients should be

Table 4. Medications Stopped During the Pandemic Depending on SARS CoV-2 Positivity in IBD Patients

	Gastroenterologists Who Stopped Treatment with This Drug as a Preventive Measure (%)	Stopped Treatment with This Drug in SARS CoV-2 (+) Patients	Hesitated to Initiate Treatment with This Drug During the Pandemic
Mesalazine	0	0	4.3
Systemic steroids	7.1	48.6	40
Budesonide	1.4	11.4	4.3
Azathioprine/6-MP	4.3	65.7	40
Methotrexate	5.7	62.9	38.6
Anti-TNF agents	5.7	62.9	31.4
Vedolizumab	1.4	27.1	11.4
Ustekinumab	1.4	34.3	22.8
Tofacitinib	1.4	44.3	30
Others	0	0	0

IBD, inflammatory bowel disease; SARS CoV-2, severe acute respiratory syndrome coronavirus 2.

Table 5. Surgical Cases Can Be Postponed due to the COVID-19 Pandemic

Cases Can be Postponed	Yes (%)
Failed medical therapy	53.4
Recurrent disease	60.3
Fistula	83.6
Abdominal abscess	5.5
Stricture	34.2
Malignancy/prophylaxis	24.6
Failure to thrive in children	26
Any surgery for quality of life	46.6

Table 6. Surgical Cases Which Cannot be Postponed due to COVID19 Pandemic

Cases Cannot Wait	Yes (%)
Acute obstruction	100
Peritonitis	100
Perforation	100
Toxic colitis/megacolon	98.7
Major hemorrhage	100
Perianal Crohn's Abscess or symptomatic residual infection	82.9

Table 7. Proposed Algorithm for Preoperative COVID-19 Testing

PCR Testing Antibody Testing	PCR negative Ab negative	Carry out surgery No further testing	Discharge with no additional testing
	PCR negative Ab positive	Carry out surgery Test every week	Discharge after additional PCR test
	PCR positive AB negative	Postpone surgery Activate COVID-19 service	Consider surgery after full recovery

PCR, polymerase chain reaction.

admitted to COVID-19-free isolation wards and limited social contact, starting 24 hours before surgery. In addition, the proposed algorithm for COVID-19 testing shown in Table 7 was also agreed on.

Nearly two-thirds of the surgeons (68.4%) agreed that for any abdominal surgery performed during the COVID pandemic, the surgical technique and preferences must be adjusted, such as refraining from performing laparoscopy, selecting open laparotomy, and performing fewer anastomoses and more diverting stomas. Furthermore, three-quarters of the surgeons agreed that antibiotic and bowel prep policies, including avoiding on-site lavage or enemas to prevent the transmission of SARS-CoV-2, should be adopted.

DISCUSSION

The COVID-19 pandemic has been imposing unprecedented burdens on healthcare systems worldwide. Given the use of biologics and immunosuppressive agents for the treatment of IBD, there has been concern that IBD patients may be at increased risk of contracting COVID-19.[12] However, few patients with IBD have been reported to be infected with SARS-CoV-2 in the IBD Elite Union, which includes the 7 largest IBD referral centers in China, with more than 20 000 IBD patients.[13]

The effect of SARS-CoV-2 on people with IBD and the impact of immunosuppression on the severity of COVID-19 remain unclear. Data reported from 1099 Chinese patients with COVID-19 did not show immunosuppression to be a risk factor for severe disease[14] 75.3% of the respondents in our survey strongly agreed that COVID-19 is a more severe problem than influenza. Italy was the most strongly affected country by the pandemic in the early months of 2020, and active IBD, old age, and comorbidities were associated with a negative outcome.[15] The majority of our respondents (81.3%) mentioned that they were concerned to some degree that their IBD patients were at risk of infection with SARS-CoV-2 and 80.3% believed that IBD, itself, independent of medications, might increase the risk of contracting COVID-19. However, the percentage of gastroenterologists (72.8%) who believed that IBD might increase the risk of contracting COVID-19 was lower than general surgeons. Since medically managed IBD patients might be in a better condition than those in need of surgery, it is not surprising that the percentage of gastroenterologists who believed that IBD itself might increase the risk of contracting COVID-19 was significantly lower.

A survey has shown that there was an almost complete suspension of face-to-face clinics during the COVID-19 pandemic, decreasing from >75% beforehand to <25% currently. Both video calls telephone consultations have increased the most and currently account for more than one-half of all IBD consultations.[16] A recent survey from Spain demonstrated that, although most professionals found telemedicine more time-consuming and unsuitable for some disease profiles, that is, perianal disease, the need for better telemedicine techniques increased during this pandemic.[17]

In our study, Gastroenterologists and general surgeons did not differ with regard to their use of video calls; however, gastroenterologists seemed to use phone calls significantly more often.

A meta-analysis found that chest CT has a pooled sensitivity between 86% and 96% and specificity between 25% and 33% for the diagnosis of COVID-19. Due to its high sensitivity, especially in regions severely affected by the pandemic, in the context of emergency disease control, chest CT provides a fast, convenient, and effective method to detect suspected cases early and might contribute to controlling the spread of the pandemic.[18] The vast majority of our respondents either partially or completely agreed that if there was a suspicion of SARS-CoV-2 infection and PCR testing was not available, thoracic CT might be helpful for diagnosing COVID-19.

Data about the effects of immunomodulatory and biological therapies used for the treatment of IBD treatment on COVID-19 are very limited. A large cohort study from Italy showed that IBD patients do not have an increased risk of contracting COVID-19, and the same study also

showed that IBD patients infected with SARS-CoV-2 are not at higher risk of developing severe disease.[19] The results from an international registry showed that only corticosteroid use and not immunomodulatory and/or biologic medication use was correlated with more severe COVID-19.[20] Another study demonstrated that the combination of azathioprine and biologic medications for the treatment of IBD increased the risk of severe COVID-19.[21] Based on the currently available data, immunomodulatory and biological therapies can be continued in patients with IBD.[9] The responding gastroenterologists agreed that IBD medications might increase the risk of contracting COVID-19 in IBD patients (52.9% partially agreed and 40% completely agreed). This agreement level is slightly higher than that in a previous international survey that involved gastroenterologists mainly from European regions.[22] Perhaps as a result of this belief, 76.7% of the responding gastroenterologists either partially or totally agreed that there is a clear need to screen for COVID-19 in IBD patients receiving immunosuppressive medications, even if they are free from the symptoms of COVID-19. These variabilities might be due to different regional perspectives. On the other hand, 88.6% of the responding gastroenterologists did not stop IBD treatment in patients who did not have COVID-19 during the pandemic. The highest level of concern was expressed regarding treatment with steroids (62.2%). Obviously, some of the respondents might be overly cautious because of the unknown nature of COVID-19 and the effects of biologics and immunomodulatory treatments on the outcome. However, a study from Wuhan involving 318 patients with IBD during the local outbreak of the disease did not report any COVID-19 cases. Further observations may result in changes in the current understanding of the relationship between COVID-19 with IBD treatment.[23] COVID-19 has profoundly impacted the operation of endoscopy units in the New York region. Eleven large academic endoscopy units in the New York City region responded to the survey. The endoscopy procedure volume and the number of physicians performing procedures declined by 90% and 84.5%, respectively.[24] According to most of the responding gastroenterologists, elective procedures should be postponed during the pandemic. An international, multicenter, cohort study included all patients undergoing surgery who had a confirmed case of COVID-19 perioperatively. Postoperative pulmonary complications occurred in half of the patients (51.2%) and were associated with a high mortality rate (23.8%). Postponing nonurgent procedures and promoting nonoperative treatment to delay or avoid the need for surgery are highly recommended.[25]

A total of 92.5% of the respondents agreed that any surgery would increase the risk of COVID-19. Ninety-five percent of them agreed that elective surgeries and endoscopic procedures should be postponed due to an increased risk of COVID-19, whereas 100% of the surgeons agreed to some extent that there are procedures that have a higher priority and need to be performed, such as cancer surgeries, prosthetic removals or the evaluation of significant symptoms. It was recommended by 98.8% of the responding surgeons that when elective surgeries were delayed, the patients should be encouraged to inform their physicians of any change in their symptoms during follow-up.

The majority of surgeons who responded to the survey strongly agreed that all asymptomatic patients undergoing any colorectal surgery should be screened for COVID-19. Nearly two-thirds of the surgeons (68.4%) agreed that for any abdominal surgery during the COVID-19 pandemic, the surgical technique and preferences must be adjusted. Furthermore, three-quarters of the surgeons agreed that antibiotic and bowel prep policies, including avoiding on-site lavage or enemas to prevent the transmission of SARS-CoV-2, should be adopted. The more routine performance of screening tests and the more accurate results of those tests coupled with the availability of devices that can help prevent the spread of the virus in the operating room may have encouraged the surgeons to perform more laparoscopies and stop postponing surgeries.

In conclusion, the COVID-19 pandemic has affected IBD patient care worldwide. Different specialists involved in IBD patient care, such as gastroenterologists and general surgeons, usually have similar perceptions. However, despite the increasing number of definitive studies, it seems that there are still regional differences in the perception of COVID-19 and IBD patient care during the pandemic.

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Supplementary Table 1. Questions Asked to Both Gastroenterologists and General Surgeons

1	COVID-19 is more Severe than Seasonal Flu?
2	Please specify (0-10) at which degree you are afraid that your IBD patients are going to be infected by coronavirus SARS-CoV2.
3	What protective measurements you are taking during this pandemic when you are seeing IBD patients? (you can choose more than one)
4	IBD is associated with a higher risk of COVID-19 independent from medications or surgery
5	All patients should be pre-screened for high risk exposure or symptoms. This screening should include history of fever or respiratory symptoms, family members or close contacts with similar symptoms, any contact with a confirmed case of COVID-19 (PCR and/or chest CT positivity), and recent travel to a high-risk area.
6	In case of clinical suspect, especially when testing is not available or fast enough, CT Scan of the chest should be substituted for the COVID lab tests.
7	Multidisciplinary IBD recommendations and shared decision making should continue
8	The elective interventions including endoscopic procedures was postponed immediately after the diagnosis of first case

IBD, inflammatory bowel disease; SARS CoV-2, severe acute respiratory syndrome coronavirus 2; PCR, polymerase chain reaction; CT, computed tomography.

Supplementary Table 2. Questions Asked to only Gastroenterologists

1	IBD drugs are associated with a risk for COVID-19
2	Should COVID-19 be tested in all asymptomatic non-IBD patients?
3	Should COVID-19 be tested in all asymptomatic IBD patients?
4	Have you stopped IBD drugs for preventive measures?
5	If yes for question 4, which drugs you would stop?
6	Would you stop IBD Drugs if your patient has a COVID-19 diagnosis (PCR and/or chest CT positive)?
7	If yes for question 6, which drugs you would stop?
8	Do you hesitate to start IBD drugs to your IBD patients during this pandemic?
9	If yes for question 8, which drugs you would stop?
10	The elective interventions including endoscopic procedures was postponed immediately after the diagnosis of first case
11	For regular monitoring your IBD patients, which lab tests you use routinely instead of endoscopy? (you can choose more than one)
12	COVID-free hospitals and operating theatres should be reserved for risky patient groups including IBD

IBD, inflammatory bowel disease; PCR, polymerase chain reaction; CT, computed tomography.

Supplementary Table 3. Questions Asked to only General Surgeons

1 Any surgery is associated with a higher risk of COVID-19 independent of inflammatory bowel disease (IBD). This point should be noted in the consent form.

2 Should COVID-19 be tested in all asymptomatic patients who will undergo any colorectal surgery?

3 The elective interventions including endoscopic procedures were associated with increased risk for patients and staff, therefore postponed immediately after the diagnosis of the first COVID case. Patients and providers should strongly consider re-scheduling elective non-urgent endoscopic procedures.

4 There are procedures that are higher priority and may need to be performed (examples include cancer evaluations, prosthetic removals, and evaluation of significant symptoms).

5 The cases for elective indications, which can be postponed?

6 What are the cases which cannot wait?

7 Some 3.6% of patients with Crohn's disease (CD) and 5.3% of patients with ulcerative colitis (UC) died after emergent intestinal resection, but for patients with either disease, postoperative mortality risk decreased significantly with elective surgery

8 When the elective surgery was delayed, patients should be encouraged to inform the following physician of any change in symptoms and preferably encouraged to keep a diary note of every change.

9 Severe coronavirus disease 2019 (COVID-19) is commonly complicated by coagulopathy. Patients with severe pneumonia induced by SARS-CoV2 had higher platelet counts than those induced by non-SARS-CoV2, and only the former with markedly elevated D-dimer may benefit from anticoagulant treatment. CoV2 and only the former with markedly elevated D-dimer may benefit from anticoagulant treatment.

10 Immediately beyond the pandemics, while scheduling risky patients including IBD for postponed elective surgery, admit patients in COVID Free isolation wards, with personal bathrooms and rest areas if possible with limited social contact, 24 hours before surgery. The algorithm should be

PCR Testing Antibody Testing	PCR –tive Ab –tive	Carry out Surgery No further testing	Discharge with no exit test	PCR –tive Ab –tive
	PCR –tive Ab +tive	Carry out Surgery Test every week	Discharge after exit PCR test	PCR –tive Ab +tive
	PCR +tive AB –tive	Postpone Surgery Activate COVID Service	Consider Surgery after full recovery	PCR +tive AB –tive

11 For any abdominal surgery during the COVID pandemics, the surgical technique and preferences must be adjusted like refraining laparoscopy, preferring open laparotomy and doing less anastomoses or more diverting stomas

12 Antibiotic and Bowel prep policies including avoiding on site lavage or enemas to prevent Coronavirus SARS-CoV2 transmission should be adopted

Supplementary Table 4. Demographic Characteristics of the Survey Responders

	Gastroenterologists (n)	General Surgeons (n)
Turkey	25	31
Azerbaijan	22	13
Ukraine	12	13
Russia	11	13
Bulgaria	0	10