



Experience of Hospital Admission and Surgery During the COVID-19 Pandemic: a Survey of IBD Patients

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Abstract

Background The aim of this study was to evaluate the experience of surgery in IBD patients during the COVID pandemic.

Methods A survey was distributed among patients undergoing IBD-related surgeries from January 2020 to March 2020 via an online platform. The response was submitted anonymously.

Results A total of 78 patients responded to the survey. COVID-19 testing was conducted in 60 (76.9%) patients, and they were all tested negative. Emergent surgery was performed in 12 (15.4%) patients and postponed surgery in 18 (23.1%) patients. The surgical indications were mainly bowel obstruction ($N = 21$, 26.9%) and perianal abscess ($N = 18$, 23.1%). Postoperative complications were noted in 5.1% of cases, but no re-operation was required. Due to the ongoing COVID pandemic, 58 (74.4%) patients reported various levels of concern and anxiety for surgery.

Conclusions Common surgical indications were for bowel obstruction and perianal abscess. Surgery can be postponed, but disease progression should be monitored closely and surgically intervened as needed. Most patients expressed anxiety resulting from the pandemic. The overall experience was satisfactory.

Keywords Novel coronavirus disease-2019 · Inflammatory bowel disease · Surgery

Abbreviations

COVID-19 Coronavirus disease-2019
IBD Inflammatory bowel disease

Novel coronavirus disease-2019 (COVID-19), was caused by severe acute respiratory syndrome coronavirus.¹ The virus

spreads across the world at an alarming rate leading to a pandemic and creating a severe burden to health care resources. Inflammatory bowel diseases (IBD) are chronic conditions requiring lifelong treatment in the majority of patients with a high risk for surgery.^{2,3} Given the severity of the pandemic, it has been recommended by multiple associations and societies that elective surgery be postponed while urgent surgery should continue.⁴⁻⁶ The current survey study is aimed to evaluate changes in hospital admissions and surgeries during COVID-19 from the patient's perspective.

This study included IBD patients who underwent surgery in major IBD centers in China from January 2020 to March 2020. The survey was built on an online platform using Wechat, which is a widely used social media app in China. The link to the survey was sent to all patients with contact information recorded in the medical chart. The response to the survey was submitted anonymously online so patients could share their genuine experiences. Only one submission was allowed for each WeChat account. Given the anonymous nature of this study, only the information obtained from the survey were used for analysis, and further chart review cannot be conducted.

The survey was distributed to a total of 126 IBD patients who underwent surgery from January to March 2020. Within

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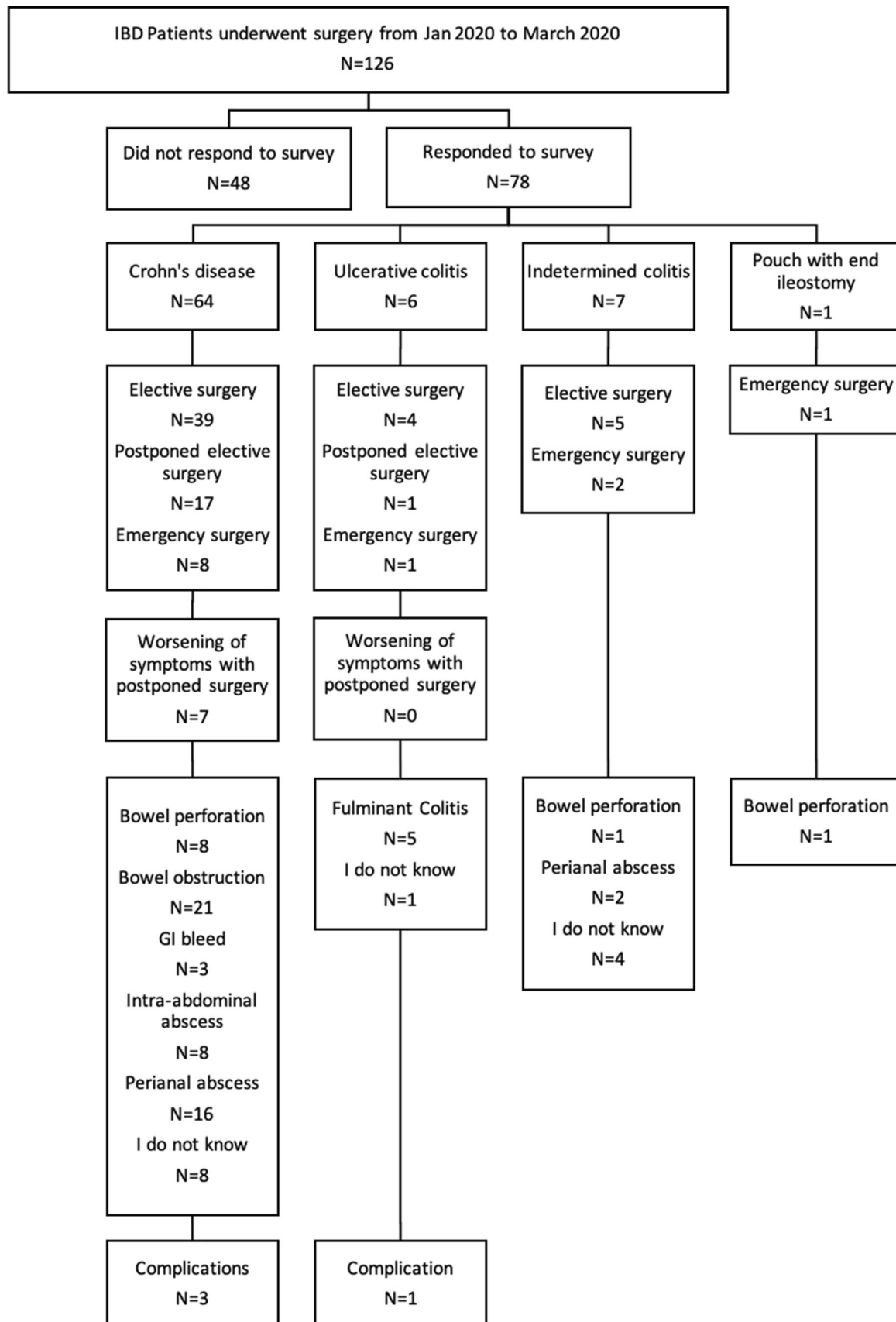


Fig. 1 Flowchart on patients surveyed in this study

Table 1 Clinical characteristic, and surgical and hospitalization experiences of IBD patients receiving surgery

Questions/answers	Number (%)
What was your primary diagnosis?	
Crohn's disease	64 (82.1)
Ulcerative colitis	6 (7.7)
Indeterminate colitis	7 (9.0)
Pouch with permeant end ileostomy	1 (1.3)
How old are you this year?	
<20 years old	8 (10.3)
20–40 years old	44 (56.4)
40–60 years old	21 (26.9)
>60 years old	5 (6.4)
What medications were you taking prior to admission? (choose all that applies)	
5-Aminosalicylates	11 (14.1)
Corticosteroids	0 (0)
Immunomodulator	14 (17.9)
Biologics	22 (28.2)
Antibiotics	5 (6.4)
Enteral nutrition	42 (53.8)
Total parental nutrition	23 (29.5)
I do not know	13 (16.7)
COVID-19 testing	
Did you receive COVID-19 testing before or during hospitalization?	
Yes, I did	60 (76.9)
No, I did not	18 (23.1)
The result of your COVID-19 test was:	
Negative	60 (100)
Positive	0
If you were tested for COVID positive, which of the following was most concerning?	
Complications from COVID-19 viral infection	19 (24.4)
The inconvenience brought by isolation	5 (6.4)
Delay of my IBD treatment	9 (11.5)
The viral infection might affect my IBD course	22 (28.2)
I do not know	3 (3.8)
Are you willing to be tested for COVID-19?	
I am strongly supportive of getting tested	64 (82.1)
I am willing to be tested only if necessary	11 (14.3)
I reject to be tested	0 (0)
I do not know	3 (3.9)
Hospitalization experiences	
When were your surgery?	
January	26 (33.3)
February	8 (10.3)
March	44 (56.4)
The hospital you were admitted to was located at which of the following locations? (Cases by John's Hopkins COVID resources center on 6/14/2020)	
Tier one: Most impacted: Wuhan (68,135 cases)	4 (5.1)

Table 1 (continued)

Questions/answers	Number (%)
Tier two: In Hunan, Henan, Anhui, and Jiangxi Provinces (4308 cases)	3 (3.8)
Tier three: Remaining 29 provinces (11,853 cases)	71 (91.0)
The hospital you were admitted to belongs to which of the following category?	
A hospital designated for COVID-19	3 (3.8)
Tertiary care center (providing service to patients across the country)	49 (62.8)
Secondary care center (providing service for multiple communities)	1 (1.3)
Primary care center (providing service for the local community)	1 (1.3)
I do not know	20 (25.0)
During your hospitalization, how many patients in total was in the room you have been staying at?	
I had a room to myself	6 (7.7)
There was a total of 2 patients in my room	13 (16.7)
There was a total of 3 patients in my room	46 (59.0)
There were more than three patients in my room	13 (16.7)
Do you feel the length of stay was longer or shorter than anticipated? Why?	
Longer, due to the extensive testing process	24 (30.8)
Longer, I believe it will be safer if I stayed in the hospital longer	10 (12.8)
Shorter, health care providers are trying to discharge patients as soon as clinically indicated	15 (19.2)
Shorter, I do not want to stay in the hospital and wished to go home once my symptoms improved	10 (12.8)
No change, I do not know	19 (24.4)
How would you rate your overall experience during this hospitalization?	
Excellent	44 (56.4)
Good	26 (33.3)
Average	4 (5.1)
Bad	0 (0)
I do not know	4 (5.1)
Surgical experiences	
Which type of surgery did you receive?	
Elective surgery	48 (61.5)
Emergency surgery	12 (15.4)
Postponed elective surgery	18 (23.1)
While your surgery was postponed, did you experience worsening of symptoms?	
Yes	7 (38.9)
No	11 (61.1)
Did you require emergency surgery as a consequence of postponed surgery?	
Yes	2 (11.1)
No	15 (83.3)
I do not know	1 (5.6)
What was the indication of your surgery?	
Bowel perforation	10 (12.8)
Bowel obstruction	21 (26.9)

Table 1 (continued)

Questions/answers	Number (%)
Gastrointestinal bleeding	3 (3.8)
Intrabdominal abscess	8 (10.3)
Fulminant ulcerative colitis	5 (6.4)
Perianal abscess	18 (23.1)
I do not know	13 (16.7)
What operation did you receive?	
One segment small bowel resection	19 (24.4)
Multiple segment small bowel resection	7 (9.0)
Ileocecal resection	5 (6.4)
Subtotal colectomy	8 (10.3)
Total colectomy	6 (7.7)
Ileal-pouch anal anastomosis	5 (6.4)
Rectal or perianal surgery	20 (25.6)
I do not know	8 (10.3)
Was fecal diversion (stoma) required?	
Yes	26 (33.3)
No	52 (66.7)
Were there postoperative complications?	
No complication	58 (74.4)
Yes, but re-operation was not required	4 (5.1)
Yes, re-operation was required	0 (0)
I do not know	16 (20.5)
If you have received surgery before the pandemic, comparing to the previous experience, this encounter was:	
Similar to the last encounter	11 (14.1)
Better than the last encounter	25 (32.1)
Worse than the last encounter	2 (2.6)
I do not know/NA	40 (51.3)
During the COVID-19 pandemic, were you concerned about the impact of the Coronaviruses on your surgical outcome?	
Extremely worried, I believe that the surgical outcome is definitely affected by COVID-19	8 (10.3)
Worried, I believe that the surgery will be affected by COVID-19 to certain degrees	13 (16.7)
Not very worried, I am nervous, but have confidence that the hospital will try to minimize the risk	37 (47.4)
Not worried at all, I feel no significant difference compared to past experiences	13 (16.7)
I do not know	7 (9.0)

these patients, 78 (61.9%) patients responded to the survey. (Fig. 1) There were 64 patients with underlying Crohn's disease (82.1%). Patients undergoing surgery during the pandemic were mostly under the age of 40 ($N=52$, 66.7%). The use of medications and additional nutrition support was described in Table 1 A total of 60 patients (88.5%) have been tested for COVID-19 before or during admission, and they were all tested negative. Twenty-six (33.3%) patients underwent surgery in January 2020 and 44 (56.4%) in

March 2020, while only 8 (10.3%) patients received surgery during February 2020. Thirty-four (43.6%) patients reported that their length of hospital stay was longer than anticipated. Regardless, 44 (56.4%) patients rated their overall experience as excellent. Emergent surgery was performed in 12 (15.4%) patients, elective surgery in 48 (61.5%) patients, and postponed surgery in 18 (23.1%) patients. Among the patients with postponed surgery, 7 (38.9%) experienced worsening symptoms, and 2 (11.1%) received emergent surgery. Parental nutrition was required in 23 (29.6%) patients, and enteral nutrition in 42 (53.8%), while no additional nutritional supplementation in 33 (42.3%). The most common surgical indications were bowel obstruction ($N=21$, 26.9%) and perianal abscess ($N=18$, 23.1%). Fecal diversion was required in 26 (33.3%) patients. Complications were reported in 4 (5.1%) patients without the need for re-operation. Twenty-one (27.0%) patients expressed a certain degree of concern, while 37 (47.4%) felt nervous but confident in the hospital's handling of the situation.

In this study, we identified that the common surgical indications were bowel obstruction and perianal abscesses during the pandemic. While surgery can be postponed, disease progression should be monitored closely and surgically intervened as needed. Nonetheless, the overall postoperative complication rate was acceptable, and patients' experience in the surgery was satisfactory. It is essential to acknowledge the fear and anxiety the patients may have to help improve rapport during this global pandemic.

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Compliance with Ethical Standards

Conflict of Interest The authors declared no conflict of interest.

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