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Original Research Article

Colorectal surgery patient perspectives on healthcare during the CoVID-19 pandemic

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ABSTRACT

Background: To focus on critical care needs of coronavirus patients, elective operations were postponed and selectively rescheduled. The effect of these measures on patients was unknown. We sought to understand patients' perspectives regarding surgical care during the CoVID-19 pandemic to improve future responses.
Methods: We performed qualitative interviews with patients whose operations were postponed. Interviews explored patient responses to: 1) surgery postponement; 2) experience of surgery; 3) impacts of rescheduling/postponement on emotional/physical health; 4) identifying areas of improvement. Interviews were recorded, transcribed, coded, and analyzed through an integrated approach.
Results: Patient perspectives fell within the following domains: 1) reactions to surgery postponement/rescheduling; 2) experience of surgery during CoVID-19 pandemic; 3) reflections on communication; 4) patient trust in surgeons and healthcare.
Conclusions: We found no patient-reported barriers to rescheduling surgery. Several areas of care which could be improved (communication). There was an unexpected sense of trust in surgeons and the hospital.

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Introduction

Almost 28.4 million elective operations worldwide have been cancelled due to CoVID-19.[1] As the pandemic continues to spread across the globe, providers struggle with how to offer procedural care to elective, CoVID-negative patients, as resources were and are being shifted to meet the increasing needs of patients with coronavirus. Initially, international predictions indicated that public health measures and social distancing guidelines made major positive effects on flattening the curve and limiting the continued spread of the novel coronavirus.[2] Accordingly, hospitals began opening their operating room doors to patients with both new and previously postponed elective surgical needs. Unfortunately, coronavirus cases continue to rise across the globe with no predictable end in sight.[2] As such, hospitals are faced with the challenge of providing elective procedural care while balancing the potential needs of a new surge of CoVID-19 cases. With the looming threat of a second surge, surgeons may again have to carefully consider which operations to postpone based on their opinions of medical necessity and potential resource utilization.

Right after the peak in cases, surgeons at our institution anecdotally reported difficulty rescheduling some elective operations for a multitude of reasons including patient concerns about disease transmission and patient perceptions about their operation's priority and necessity despite counsel with their surgeons. In addition, patient hesitation on rescheduling surgery led to concern from surgeons over the potential patient harm due to treatment delay. This tension was most apparent in patients with cancer, whose oncologic outcomes were dependent on following specific treatment protocols. While professional guidelines have been created to help guide surgeons in planning for the resumption of elective operations, patient perspectives are noticeably absent.[3]

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In this context, we sought to better understand patient's views on the psychological, emotional, and physical consequences of the CoVID-19 pandemic as well as its effect on their decision to pursue surgery during this unprecedented time. The results from this study will be used to design optimal strategies to resume care of non-CoVID elective patients that take into account both surgeon-perceived medical necessity and patient concerns. Further, this data provides important insight into how to improve surgical care in the event of a second surge.

Methods

Study design

This report presents findings from a qualitative study designed to explore how the CoVID-19 pandemic and surgery postponement impacted our surgical patients' healthcare experiences.

Interview participants

Convenience sampling was used to recruit patients from our tertiary medical center's colorectal surgery division. Our medical center began to focus on urgent and emergent cases exclusively with ramp down of elective operations on March 16th, 2020 with peak hospital census of patients with CoVID between April 8th and 15th. Therefore, participants were eligible if their abdominal operation was postponed due to CoVID-19 between March 16 and April 17, 2020, regardless of whether they had been rescheduled or had surgery at our institution or elsewhere. The sample consisted of surgical patients across colorectal conditions including inflammatory bowel disease, colorectal cancer, diverticulitis, and ostomy patients. Patients originally scheduled for outpatient procedures were excluded.

Our sampling strategy was kept intentionally broad in order to capture experiences from a broad range of patient perspectives (e.g. stage of disease, surgery needed, etc). Of the 98 eligible participants contacted by phone, 38 agreed to participate in the study and all were interviewed to explore as many individual experiences as possible. Due to the range of experiences gathered, the adequacy of the data was not determined by the number of participants but by the appropriateness and depth of the data.[4] Patients were diverse with respect to age and sex. Participants received a $50 Visa gift card for their participation in the interviews.

Interview procedures

All participants were provided an oral informed consent statement and verbally consented before their interview. Individual interviews were conducted over the phone between May 13–28, 2020, with time frame between surgery postponement and interview ranging between one and two months. At the time of the interviews, operating rooms were slowly being reopened and carefully selected patients were being contacted to reschedule their operations based on bed availability and provider-determined priority and acuity.

All members of the research team designed an interview guide to explore patient responses to having surgery postponed, the experience of having surgery during CoVID-19, impacts of the CoVID-19 pandemic on patient emotional and physical health, and patient recommendations for improvement of patient care. The interview guide was designed in a semi-structured manner beginning with broad primary inquiries, such as "*What was it like to have your surgery?*," followed by more specific, detailed prompts, like "*What were the hardest things about having surgery during the COVID-19 crisis?*," to encourage participants to organically describe their experiences and to allow new ideas to emerge. Prompts were optional and were not asked if a participant's answer to the previous primary inquiry already addressed the topic. The full interview guide can be found as Supplemental Material.

Interviews were conducted by three research team members (SJR, CAV, CV), who have expertise in qualitative interviewing. Specifically, SJR has received masters level training in qualitative interviewing with 1 year of previous experience; CAV has earned a master's degree in medical anthropology which involved expertise in qualitative research methodology with over 5 years of experience performing qualitative research; and CV has received one-on-one training with CAV and other qualitative experts within our research department. Interviews were semi-structured and iterative in nature which allowed for more detailed questioning and adjustments to the interview guide as necessary. All interviews were conducted over the telephone lasting between 20 and 40 min. Interviews were digitally recorded, transcribed verbatim, and deidentified. Transcripts were not returned to participants for review.

Analysis

We utilized an integrated approach for the analysis of our descriptive data.[5] All members of the research team independently read through transcripts to inductively identify an initial set of codes. The code structure was then revised during team review of the data. A final code structure was then created and applied to the full data set. Three members of the research team (SJR, CAV, SC) independently coded the transcripts. Transcribed interviews were coded in MAXQDA (version 18.2.3, VERBI GmbH, Berlin, Germany), a computer-assisted qualitative analysis software. This study was deemed exempt by the University of Michigan Medicine Institutional Review Board (IRBMED HUM00180852).

Results

We interviewed 38 colorectal surgery patients whose operations were rescheduled or postponed due to the CoVID-19 pandemic. At the time of the interviews, 12 patients had already undergone surgery either at our institution or another, while the remaining 26 patients were either already rescheduled or were awaiting surgery to be rescheduled. Patient demographics and characteristics are detailed in Table 1.

Despite the personal experiences of our colorectal surgeons with difficulty rescheduling patients, our patient interviews did not reveal significant patient barriers or concerns regarding surgery rescheduling and postponement. However, we discovered valuable patient perspectives within the following domains:

1. **Reactions to Surgery Postponement and Rescheduling:** patient views and feelings on the postponement and rescheduling of surgery, including opinions on personal risk and case priority as well as anxiety about delay in care
2. **Experience of Surgery during CoVID-19 Pandemic**: details surrounding patients' hospital experiences, safety precautions in place, and impact of visitor policies
3. **Reflections on Communication:** patient recommendations on improving patient care during the CoVID-19 pandemic
4. Patient trust in surgeons and health care system: references to trust placed on surgeons and hospital to make the appropriate decisions.

Table 1
Patient demographics.

Patient Demographics	
Age (years)	57 (19–76)
Gender	
Female	21
Male	17
Race	
White	30
Black	6
Asian	1
Other	1
Ethnicity	
Non-Hispanic	34
Hispanic	4
Marital Status	
Single	9
Married	23
Divorced	5
Widowed	1
Insurance Status	
Private	31
Medicare	11
Medicaid	6
Other	1
Diagnosis	
IBD	10
Colorectal Cancer	18
Diverticulitis	2
Temporary Ostomy	3
Other	5

Table 2
Exemplary Quotes from Colorectal Surgery Patients Regarding their Care During the CoVID-19 Pandemic.

Reactions to Surgery Postponement and Rescheduling	
Initial Reactions	*"I was kind of expecting it, so I really didn't have any questions."* (ID18)
	"I was actually relieved it was canceled because I thought, you know, I knew the hospitals were starting to prepare and things were happening. And I didn't want to be exposed." (ID3)
Opinions on Personal Risk and Case Priority	*"I felt like the surgery is really important, probably lifesaving, because there's a very good chance, with so many adenomas, they would become, eventually, cancer*." (ID4)
	"I don't want to be a burden in the hospital if they're doing other things, you know, if I can wait." (ID5)
Anxiety about Treatment Delay	*"The hernia was there. It's gotten a little bit bigger. I don't want it to strangulate*." (ID21)
	"I think one of my concerns is a resurgence of, like now that we're easing up on restrictions, of we get another spike in cases. So that's one of my concerns. And then I won't be able to have the surgery because of the spike in cases, and they have to go to the shutdown again." (ID3)
Experience of Surgery during CoVID-19 Pandemic	
Impressions about Hospital Environment	*"I was extremely impressed with the attitudes and professionalism of all of the people that I talked to at all levels. I was impressed with a guy who was taking care of floor cleaning. I mean, he was amazing. He was so professional."* (ID19)
	"It's very quiet. There aren't people around, which is comforting, just everything feels different." (ID17)
Opinions about Precautions	*"They took every precaution to make sure they were safe and I was safe*." (ID1)
	"They all had masks. And we often, even within the hospital that you would go to, they would be checking your temperature. You would have the mask on. There were hand sanitizer everywhere. Even when you go to the receptionist, there was like a big cross mark far away from the reception area where you would stand. So it made me feel really comfortable, the way the hospital was." (ID36)
Impact on Visitor Policy	*"I think it was harder for my husband than it was for me, because I sort of felt … I sort of felt safe and that they would take care of me. I think it was harder for my husband."* (ID6)
	"Well, I must say, there were two nights when I was in tremendous pain, and I sure would have loved to have had my daughter there, you know. I just can't imagine the horror around our country with all these people with COVID-19 alone in a hospital, no one there." (ID8)
Reflections on Communication	
Timely, Frequent Communication	*"I guess it would be nice to have an update rather than me having to wonder whether I should call to find out if anything has been decided. I mean, it would be kind of nice to have somebody maybe call every other week or something and just say, this is where we're at."* (ID4)
Preoperative Patient Preparation and Expectation Setting	*"Try to prepare them for what they're going to experience because of the changing rules of COVID and try to be a little bit more cohesive as a unit with their interns, residents, and the nurses so everybody has an understanding of what is going to happen and there won't be any question of, well, we don't know, we have to find out. And then, after they find out, 5 min later, somebody tells us something different. So, yeah, cohesiveness as a unit would be good."* (ID16)
Patient Trust in Surgeons and Health Care System	
Trust in Surgeons	*"And if he's working doing this stuff, he's got to feel pretty secure about the way things are there or he wouldn't be doing it."* (ID23)
Trust in Health Care System	*"I mean, I put my trust in them the whole time. I mean, had they told me it was fine to come in on April 21*st *for the surgery, I would have been there."* (ID5)

Exemplary quotes from each domain are presented in Table 2.

Reactions to surgery postponement and rescheduling

Very few patients reported being disappointed or frustrated with having their surgery postponed. In fact, the majority of patients expressed that they were "*expecting it*," and were not surprised when they received a call to reschedule or postpone their surgery. Further, many patients reported feeling a sense of relief as they were concerned about CoVID-19 and undergoing an operation during a pandemic - with some patients stating that they had contemplated cancelling the surgery themselves. As one patient indicated,

"I think [I felt] relieved that the surgeon called it, that it wasn't left to me to call it." (ID34)

Interestingly, patients had a wide range of opinions with regard to their personal risk of contracting CoVID-19. Overall, patients' perspectives seemed to be incongruent with medical opinion on who should be considered high risk for the novel virus. For example, one patient on immunosuppressive medications following a lung transplant described being unconcerned about the risk of CoVID-19 despite being considered high risk medically and stated,

"Give me some Lysol, and we'll go in and get it done." (ID11)

Other patients on immunosuppressive medications for conditions such as Crohn's disease also expressed minimal concern over catching CoVID-19. In contrast, cancer patients who underwent chemotherapy in general appropriately believed they were at greater risk for contracting the virus. For example, "I had had such a good response to my cancer treatment that I felt that the risk of CoVID was higher than the risk of my disease spreading at that point." (ID25)

Many patients believed that their operations were not emergent and other patients' situations were more pressing than their own. For example, an ostomy patient reported no urgency in rescheduling his operation as he had already lived with an ostomy for some time and "*six more months ain't going to kill me*" (ID13). Another temporary ostomy patient whose j-pouch surgery was postponed described her perspective,

"You know, a lot of people are dying from CoVID. You know, I'm feeling like there's just tragedy all over the place, and I'm really doing well over here where I'm at, even with my bag." (ID22)

Conversely, cancer patients expressed concern about the status of their health conveying the belief that cancer is not an elective surgery. One patient described her perspective on case priority,

"You know, after going through six months of chemo, it was really hard on me. You need to get the surgery done before your cancer grows back. You know, it is time sensitive." (ID14)

Regardless of diagnosis, some patients expressed concern and anxiety over the consequences that treatment delay may cause them. Some patients worried about their parastomal hernias becoming strangulated or incarcerated while others worried about becoming completely obstructed from strictures, such as this patient,

"I had a weekend where I almost went into the hospital thinking I had a blockage. I was, feeling very bad, and so I felt very anxious about it." (ID33)

Cancer patients in particular worried about disease spread or recurrence during the waiting periods. For example, this patient described his concerns regarding time,

"You know, longer you wait, the, you're worried that the tumor is growing larger and spreading." (ID31)

Some cancer patients were worried enough about this risk that they sought second opinions. A few patients had their surgery performed at another institution, some even out of state. One patient who received her surgery elsewhere stated,

"I have cancer, so I didn't have many options." (ID14)

Lastly, several patients mentioned anxiety over the possibility of a second wave of CoVID-19 cases and consequently having to postpone surgery even longer due to another shutdown.

"*I want to wait and, but I don't want to wait too long, you know." (ID35)*

Experience of surgery during CoVID-19 pandemic

Overall, patients reported feeling safe and comfortable while undergoing surgery during the CoVID-19 pandemic. Very few patients had anxiety about contracting CoVID-19 during their hospital stay. In fact, many patients believed that the hospital was safer than some public spaces, such as the grocery store or church, as this patient described,

"I actually felt the hospital was the safest place to be, more safe than [location] or anywhere else. So I did not have that as a concern, that I would catch CoVID-19 at the hospital." (ID36)

Patients described receiving care during the CoVID-19 pandemic as distinctly different than at other times throughout their lives. Patients reported the atmosphere of the hospital had changed. One patient described the hospital as "*a lot more quieter than the library*" (ID35) and another explained the hospital as "*very eerie*." (ID28) Many patients remarked about how empty the hospital felt and how much quicker diagnostic tests and procedures appeared to happen.

In regards to CoVID-19 precautions, patients reported how impressed and reassured they were by how cautious the hospital and providers appeared to be. Patients appreciated mandatory preoperative CoVID testing as it made them feel safer undergoing surgery and sharing a room with a stranger. One patient stated,

"I thought that was a good move, a smart move that made me feel more comfortable about my roommate." (ID19)

Patients described how precautions taken by the hospital were comforting, including handwashing and sanitizing, gloves, masks, and social distancing efforts. Patients also discussed feeling reassured by the hospital layout. For example,

"The nurses are assigned to a specific floor, so it's not like they were leaving my room and then going and taking care of someone with CoVID, then coming back and taking care of me. And so that felt better." (ID2)

While the majority of patients noted staff compliance with precautions, some patients noted instances when this did not occur. For example, one patient described,

"Everybody wore masks, some of the nurses wore the masks below their nose, and I was a little surprised at that." (ID28)

Overall, the hospital policy that was most frequently reported to have the most adverse impact on patients was the no visitor mandate. Patients personally struggled emotionally with not having family and friends present in the hospital with them during perhaps their most vulnerable time. One patient described the experience as,

"The hardest part was knowing that nobody could be there, you know, hard for my family not being able to be there waiting to hear how surgery went, and hard for me to know that I had to face those, that week in the hospital with no support from family or friends." (ID25)

Other patients described their family members having more difficulty with the no visitor policy than the patient as they felt disconnected from their loved one's care. Given the lack of an in-person support system, patients reported greater reliance on hospital staff than normal, both emotionally and physically. One patient recounted his experience waking up from anesthesia and his desire for companionship.

"And I remember at one point, I can't believe I did it, but I remember asking her [the nurse], I said, can I hold your hand for a minute? I just needed human contact." (ID8)

Another patient described his experience feeling like a burden because he required more physical help from the hospital staff that his family would normally provide.

"I couldn't have any family there, so usually I could have them help me with stuff or maybe go get me a drink or something. Every time I needed something, I had to call the nurse and I just felt kind of bad about that." (ID6)

Reflections on communication

Patients reflected on areas of potential improvement. In general, patients appreciated the communication surrounding their surgery postponement and rescheduling, especially when it came directly from the surgeon rather than from a surgery scheduler or nurse. However, some patients requested more timely communication. One patient reported having her operation canceled the day before her surgery, after she had already taken her bowel preparation. Other patients reported being asked to reschedule their surgery within a couple days of receiving a phone call, which left little time for preparation and a sense of feeling rushed.

Many patients desired more frequent updates and communication from their surgeon or a nurse. While most patients recognized the dynamic nature of the CoVID-19 pandemic, they craved more information. Some patients wanted to be able to discuss their health concerns with a medical professional while others wanted updates on the status of operations. One patient described,

"It would be nice to have an update rather than me having to wonder whether I should call to find out if anything has been decided. I mean, it would be kind of nice to have somebody maybe call every other week or something." (ID4)

Other patients recommended the hospital improve the transparency surrounding case priority for rescheduling. For example, one patient explained,

"I wish that I had had more clarity about what counted as a non-emergent or an emergent surgery when mine had been canceled." (ID9)

Postoperative patients suggested that the hospital could do a better job at preparing patients to have surgery during the CoVID-19 pandemic. Patients recommended more detailed preoperative patient education about the hospital's precautions such that patients would not feel overwhelmed or confused. Patients emphasized the importance of reassuring patients about the proximity of CoVID-positive patients to surgical patients. Lastly, patients urged staff members to create a "*sense of normalcy*" (ID19) for their patients while ensuring cohesion between team members as certain patients reported hearing different messages from different team members.

Trust in surgeons and health care system

Throughout our interviews, patient entrustment in their surgeon and the health system arose as a recurring concept. Patients discussed confidence in their surgeons and the health system to make the difficult but necessary decisions, not only for themselves but for all patients.

"They were doing everything they can do to protect the patients. So that was a good experience for me, because I figured a fine hospital like [hospital] would be doing all the proper things." (ID8)

Patients trusted their surgeons to only reschedule surgery when they believed it to be truly safe. One patient described his surgeon as "*a total expert*" and he "*wouldn't have any problem putting anything to do with my life in her hands" (ID32).* Beyond the individual surgeon, patients spoke positively about the health system as well. For example, one patient stated,

"I have faith that the [hospital] will do what they believe is right according to epidemiology and science, and I feel that, you know, they will contact me when it's actually appropriate and safe." (ID7)

Discussion

The CoVID-19 pandemic has inspired a plethora of medical journal publications, ranging from opinion pieces on patient mortality to patient case reports to reviews of appropriate

pharmacology.[6–8] However, little has been published from the patient perspective on the impact of CoVID-19 on their surgical care. We sought to fill this gap while also hoping to understand our patients' barriers and concerns regarding surgery rescheduling. Our results did not align with our original hypotheses as we expected to find many barriers to surgery rescheduling based on surgeon experience during operating room reopening. Instead, we discovered noteworthy patient perspectives on surgery postponement and rescheduling processes, the experience of surgery during a global pandemic, potential areas for patient care improvement, and perhaps most fascinating, a tremendous sense of trust in surgeons and the health care system.

Overall, we found that our patients were satisfied with their experience despite the unpredictability of the ongoing pandemic. Importantly, patients felt comfortable in the hospital due to the precautions in place, namely pre-operative CoVID testing, socially distanced furniture, mandatory mask policy, and focus on cleanliness. However, patient interviews highlighted several areas that could be improved, which led to modifications of our current procedures related to postponement and rescheduling. We have focused more on surgeon-directed communication about surgery rescheduling and ensuring communication is timely, more frequent, and transparent. Additionally, we have revised our pre-operative patient education to include appropriate expectations associated with surgery during the CoVID-19 pandemic in addition to better education for our immunosuppressed patients about their increased risk of contracting CoVID-19. Lastly, we are working to further emphasize to hospital staff the appropriate use of personal protective equipment.

Interestingly, we found that patients had an overwhelming sense of trust in their surgeons and the institution as a whole. Patients were willing to adhere to their surgeon's recommendations despite the threat of a global pandemic and any personal reservations. This is strongly contrasted with the overall American public opinion, which has revealed drastic declines in physician trust over the past 50 years – in 2014, only 23% of Americans expressed at least a great deal of confidence in healthcare.[9] It is unclear if our findings are unique to our specific patient population, our surgeons, our institution, or tertiary medical centers in general. Given this unique and unexpected finding, we intend to focus future efforts on evaluating the complexities surrounding patient entrustment in surgeons, hospitals, and healthcare systems. We believe that patient trust in health care will continue to be paramount, and understanding its complexities will allow us to further cultivate patient trust during this ongoing pandemic.

Like many studies published in this uncertain time, our study has limitations worthy of discussion. Although we invited all patients who met inclusion criteria to participate in this study, we recognize there may be selection bias in those who participated. Those who were willing to participate may be more trusting in our surgeons or health system overall and their experiences may not reflect the population of individuals who chose not to participate. Additionally, we understand that the population of our large, tertiary referral center may not be representative of the general surgical population or patients receiving care in community settings. Notably, consistent with local demographics, our population consists mainly of white, insured patients which could amplify the findings of healthcare provider trust as this population historically has more trust in healthcare compared to minority and uninsured populations. Further, our sample is not large enough to make any meaningful comparisons between subgroups to further explore these issues. Additionally, our sample consists of only colorectal patients which also may enhance the finding of patient trust in surgeons. We hypothesize that colorectal surgeons tend to have a more longitudinal relationship with their patients compared with other surgical subspecialties, such as emergency general surgery. However, further studies would need to be conducted to better understand the causes and degree of trust between patients and providers. We also recognize that patients may have been reluctant to reveal their uncensored opinions due to fear of it affecting their status as a patient despite monetary compensation and reassurance of anonymity. Lastly, given the accelerated pace CoVID-19 research and the constantly evolving nature of global pandemic, it remains unclear if our interview guide incorporated the most meaningful questions or if our patients had enough time to process all of their complex feelings. Perhaps, we may have found contradictory results if our study was conducted at a different point in time or with a different patient population. However, as one of the first studies to explore surgery patient perspectives about their care during the ongoing CoVID-19 pandemic, we believe that its findings are valuable and may help others improve patient care during this public health crisis. As the CoVID-19 pandemic continues, it will be advantageous to explore the opinions of a more diverse sample of patients, including those from different ethnic and socioeconomic backgrounds as well as those with surgical conditions outside of the colorectal surgery field.

Conclusions

By listening to our patients' perspectives on this complex public health issue, we have learned a great deal about patient reactions to unexpected surgery postponement, the experience of having surgery during a pandemic, improvements necessary in patient care, especially surrounding communication, and the strong sense of trust that patients place in surgeons and the health care system. We plan to focus on improving our patient care based on what we've learned and further exploring patient trust. Now more than ever, we feel a greater sense of responsibility in keeping our patients safe since we now understand how much trust our patients place in our recommendations during this unprecedented public health crisis.

Declaration of competing interest

No conflicts of interest, use of off-label or unapproved drugs or products, or use of previously copyrighted material.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.amjsurg.2021.03.001.

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