

Sages Recommendations Regarding Surgical Management Of Colorectal Cancer Patients During The Response To The Covid-19 Crisis

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Note: these recommendations are subject to change and update.

Introduction

The care for all patients with cancer requires multidisciplinary review and decision-making, and entails the consideration of many factors in order to develop a sound plan of treatment. This requires a detailed assessment of patient, disease, surgical team, and hospital resources. (1) These principles remain critical and in fact, arguably more important now as we combat the COVID-19 pandemic than ever before. Thus a “one size fits all” recommendation would be unwise due to significant variability in patient presentation, individual comorbidities, disease severity, regional pandemic burden, and hospital-regional resources. **It is important to recognize this document presents general recommendations. These are meant to be helpful to the surgeon while recognizing that the individual surgeon and patient will need to decide upon the course of therapy depending on local resources and individual situations.**

The recommendations below are aimed to help guide practicing surgeons by providing a framework to address more urgent cancer cases, and to help stratify options that may diminish risk and improve outcomes. To address these concerns, we refer to several resources including the Elective Surgery Acuity Scale (ESAS) (2) as published by the American College of Surgeons (ACS).

As each surgeon assesses their patient, it should be kept in mind that as of the date of this publication, no region in the USA is thought to have peaked in this epidemic. Thus, conditions are expected to get worse before improving. Having said that, when areas experience a “flattening of the curve”, some non-emergent surgeries may be considered.

ESSENTIAL POINTS TO HELP WITH CANCER CARE TRIAGE

Important Considerations for all Cancer Patients:

1. The **comorbidities and age** of the patient are paramount in assessing the relative risk and benefit of exposing the patient to coronavirus versus pursuing alternative, next-best options such as neoadjuvant chemotherapy prior to operation.
2. The **resources** available to the surgeon and hospital at the time of assessment are also critical. Since this pandemic is dynamic in terms of patient acuity, volume, and hospital resources, the current state and immediate potential future state of the hospital system at the time of the proposed operation and anticipated postoperative inpatient recovery needs to be considered.

COVID-19 PHASE of Hospital or Healthcare System:

Phase	Condition	Description
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0	Unaffected	No COVID-19 patients, hospital operating as normal
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I	Semi-urgent	COVID-19 patients are in the hospital, but resources and ICU beds/ventilators are not threatened
II	Urgent	Many COVID-19 patients are in the hospital, ICU beds/ventilator availability is strained and
III	Emergent	Crisis situation where most ICU/ventilator resources are directed to COVID-19 patients and are unavailable

1. The **urgency of the operation** proposed. Most hospital systems are endorsing that, as hospital resources allow, patients with cancer should undergo curative resection if delaying surgery by more than 3 months will adversely impact tumor and oncologic outcomes.
2. **Testing for coronavirus prior** to operation is strongly encouraged, contingent on testing availability. This is encouraged as a precaution for your patients who may be about to become ill, as well as for staff and the surgical provider, who need to be stewarded as fundamental workforce resources for our patients. A complex surgical procedure will likely affect a patient's immune system, and deferral should be considered for COVID-positive patients until the COVID disease process has stabilized.
3. **Open surgery and minimally invasive approaches** – Consideration should be given when performing open, laparoscopic or robotic surgical approaches to risks of aerosolization of the virus. As long as the patient is negative for the virus either approach is appropriate. However, for patients who are positive for the virus and require more urgent operation, each approach has its own considerations. Concerns exist regarding potential viral contamination with pneumoperitoneum

during laparoscopic and robotic surgery. Even though there is no clear evidence it occurs with COVID-19, the risk cannot be overlooked and there are ways of mitigating the risk as we previously described (see link below). During open surgery, the risk of viral spread within the plumes generated by electrosurgery or other energy sources is also to be considered. Robotic approaches in confirmed or suspected COVID-19 patients also had the added consideration of potential contamination of the robotic equipment. <https://www.sages.org/resources-smoke-gas-evacuation-during-open-laparoscopic-endoscopic-procedures/>; <https://www.sages.org/recommendations-surgical-response-covid-19/>

4. **Likelihood for need of ICU** – Patients who are expected to require significant time in the hospital, or have a higher risk of peri-operative complications potentially requiring ICU or step-down unit/telemetry services that may be needed for acutely ill COVID patients, should have their operation timed to avoid surge resource constraints and contamination, if possible.
5. **Length of time for recovery** – The benefits of MIS surgery with reduced hospital stay and higher rate of discharge to home, rather than a nursing home, should be considered in planning surgical approaches. (3, 4)
6. **Consenting the patient for surgery** – The potential risks and implications of doing surgery during the COVID-19 pandemic, particular to the local institution, should be clearly discussed with the patient and family when obtaining consent for surgery.

General management strategies for patients with cancer during COVID-19 pandemic (Tier-based):

Generally, cancer patients require resources and support services that are typically stressed during pandemics. Further, early reports in this pandemic show that viral infection with COVID-19 tends to be specifically more lethal in cancer patients (5). This highlights that surgeons and systems must recognize that all cancer patients are in a high-risk category.

Tier 1a	Tier 1b	Tier 2a	Tier 2b
Low acuity surgery/healthy patient		Intermediate acuity surgery/healthy patient	
<i>Outpatient surgery</i>	Low acuity surgery/unhealthy patient	<i>Not life threatening but potential for future morbidity and mortality.</i>	Intermediate acuity surgery/unhealthy patient
<i>Not life-threatening illness</i>		<i>Requires in hospital stay</i>	

Modified from COVID-19: Guidance for Triage of Non-Emergent Surgical Procedures. American College of Surgeons, Clinical Issues and Guidance (2)

General comments on cancer patients as they relate to the ESAS tier system:

- **Tier 3a or 3b (ESAS):** All patients in this Tier should undergo appropriate procedures to remedy their urgent or emergent condition.**
- **Tier 2a or 2b (ESAS):** The majority of cancer patients will fall in Tier 2. The guiding principle here is that these patients will require multidisciplinary input (done virtually as needed), and also that the surgeon carefully assess all variables listed above . Patients falling in the high-risk category, i.e. personal high-risk features or high-risk due to environment and resource issues (as outlined by the considerations above), should preferentially be offered non-operative alternative measures in-lieu of surgery . If surgery cannot be avoided, measures to reduce inpatient LOS are recommended.***

- **Tier 1a or 1b (ESAS):** All patients in this Tier are considered elective and should be delayed until pandemic is stabilized, resources are rebalanced, and risk is returning to baseline levels.

***When multiple options exist, especially for Tier 3b, the surgeon is encouraged to choose the treatment option that minimizes use of resources and decreases risk to patient and healthcare. (1)*

****Disease site specific non-operative alternative measures are outlined below.*

Site Specific Recommendations:

I. Management strategies for patients with Colorectal Cancers during COVID-19 pandemic:

Below is a discussion of treatment options and guidelines to consider for patients with newly diagnosed colorectal cancers, including patients who are completing or have already completed neoadjuvant treatment. The best treatment for the patient will vary depending on the individual situation as well as the phase of COVID-19 in your region, including patient volume and the resulting strain on the hospital and its resources.

To set the groundwork for the discussion it is worthwhile to list various treatment options and clinical scenarios. It is helpful to categorize conditions surrounding the hospital and healthcare system in an effort to choose treatments wisely.

Treatment options in the colorectal cancer patient include:

1. 1. Definitive Oncologic Surgery
2. 2. Delay of Treatment (6, 7)
3. 3. Stent Placement (8, 9)
4. 4. Diverting Stoma
5. 5. Induction Chemotherapy (10)
 1. a. Duration & extended course (1 or 2 more cycles)

6. 6. Chemoradiation (rectal cancer)
 0. Short course vs. long course (11)

The clinical presentation of the patient along with COVID-related strain on hospital resources will determine the most appropriate plan of action. While surgery maintains its primacy in the treatment of colorectal cancer, there are clearly roles for each of the above therapies, which may offer the preferred “next-best option” based on the COVID-19 Phase of the institution. For the purpose of this discussion we will exclude COVID-19 Phase 0 situations, which fall into a “business as usual” category.

Treatment of common colorectal conditions as it relates to COVID-19 PHASE of Hospital (description):

Clinical Situation	Phase I	Phase II
Large or suspicious polyps		
Hereditary Syndromes		
Dysplasia/Carcinoma in situ in biopsy specimens,		
Incomplete, questionable margins on polypectomy		
Early cancer in resected polyp: (Tier 2)	Consider deferring surgery vs resection	Deferr
Asymptomatic Cancer		
T1-2 N0 (Tier 2)	Resect	Rese

Asymptomatic Cancer

Colon T3-4, N0 and Tx N+ (Tier 2)

Resect

Resect

Rectal T3-4, N0 and Tx N+ (Tier 2)

Induction chemotherapy versus chemora

consider delaying surgery up to 12-16 w

Symptomatic Cancers (Tier 3) defined as bleeding requiring
transfusion, obstructing or near-obstructing, impending perforation

Resect

Resect

stom

**transfer to a facility in a region in Phase 0-II*

***While resection of locally advanced colon malignancies may be feasible during Phase II, the decision to defer may be justified based on anticipated impending COVID-19 surge and critical straining on institutional resources (transition from Phase II to Phase III may occur within days)*

General Comment

Optimally managing cancer patients within the confines of limited medical resources is a hurdle rarely encountered in modern times in the USA. Never before has our Hippocratic Oath come more into play. This document will be updated as new scenarios or suggestions are posted. Again, it is of paramount importance to recognize these as general recommendations are meant to be helpful to the surgeon, while recognizing that the individual surgeon and patient will need to decide upon the course of therapy depending upon local resources and individual situations.

We will all make difficult decisions and all stand behind one another, as we should always strive to do. Prioritizing the patient's needs and wishes, the family, and standing by them in the surgeon-patient

relationship whatever course is necessitated, remains our professional calling and commitment.

References

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