Cancer in the context of COVID-19: Summary of emerging evidence (20)

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The CRI presents a selection of emerging research articles and clinical practice guidelines related to cancer and COVID-19, with a summary of their key findings/recommendations (links to the articles are embedded as hyperlinks in the titles). This is the 20th and final of our weekly compilation.

This week, we highlight the latest research and evidence related to oncology services in COVID-19 outbreak contexts globally, with a focus on low- and middle-income country (LMIC) contexts. This week's edition features articles proposing strategies for the resumption of oncology services at full capacity. We hope that insights from these pieces of evidence will help guide how we think of the way forward with cancer prevention, treatment and care as the pandemic evolves. Previous weeks' editions can be found on the **CRI website,** as well as on **our Twitter page (@UctCri)**.

Carrano et al. With adequate precautions colorectal cancer surgery can be safely continued during COVID-19 pandemic. British Journal of Surgery. DOI: 10.1002/bjs.11859.

Country Context: Italy

In this editorial, the authors report the findings of their study of a cohort of colorectal cancer (CRC) patients operated during the initial phase of the pandemic for 30-day complication rates. They compared the rates with those of the corresponding timeframe in 2019. The study involved CRC patients managed at a tertiary university hospital located in the Lombardy region, an epicentre of the SARS-CoV-2 outbreak in Italy. Thirty-one radical resections for CRC were performed from February 23rd to March 31st 2020 during the COVID-19 outbreak (group A) and 31 in the same period of 2019 (group B). Post-operative complications occurred in 7 (22.5%) patients in group A, compared to 10 (32.2%) in group B. There were no perioperative mortalities in either of the groups. No SARS-Cov-2 infections occurred in group A. Median length of stay was similar in both groups; 3 days (2-18 days) for group A vs 4 days (2-21 days). The authors conclude that with preoperative screening, COVID-19 precautions and sound patient prioritization strategies, it is possible to maintain cancer surgery while ensuring patient safety during the COVID-19 pandemic. The figure below illustrates the prioritization strategy adopted at the hospital:

PRIORITY SCALE	ONCOLOGIC SELECTION CRITERIA	AGE/COMORBIDITIES CORRECTION FACTOR
≤ 1 week	Urgent: tumor related complications treatable only with surgery.	Age ≥80 / Age < 80 ASA 3-4 ASA 1-2
2-4 weeks	Deferrable urgency: unfavorable tumor biology, potential risk of non-resectability in the medium term	Age ≥80 / Age < 80 ASA 3-4 ASA 1-2
5-8 weeks	Potentially curative cancer surgery without treatment alternatives.	Age ≥80 / Age < 80 ASA 3-4 ASA 1-2
> 8 weeks	Non - aggressive tumor biology. Available therapeutic alternatives. Surgery can be deferred without compromising outcomes.	

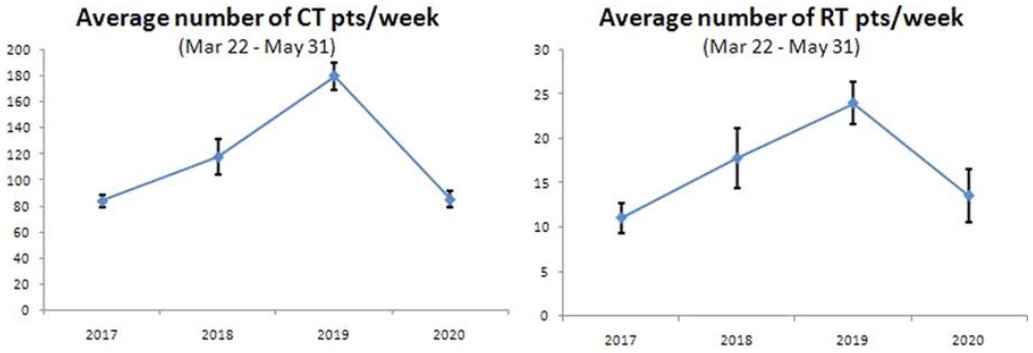
ASA: American Society of Anesthesiologists physical status/classification

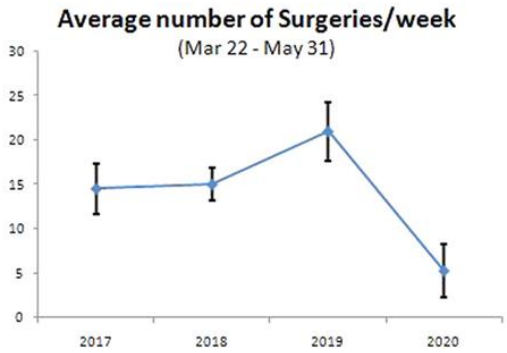
Deshmukh et al. Impact of the pandemic on cancer care: Lessons learnt from a rural cancer center in the first 3 months. Journal of Surgical Oncology. DOI: 10.1002/jso.26144

Country context: India

This study is a comprehensive assessment of the response to the COVID-19 and its impact on healthcare workers and patient care in a dedicated cancer hospital in India. It reports the guidelines changes and broader reorganization of cancer care in response to the outbreak. The number of patients receiving treatment (chemotherapy, radiotherapy and surgery) in the lockdown period in India was compared with those of the corresponding periods of the previous year. The impact of COVID infection on the health care workers and its repercussions were also analysed. They observed a marked decrease in the total number of patients during the lockdown period, will the most affected department being surgical oncology. None of the current patients contracted COVID-19, but one HCW tested positive.

The chart below illustrates the observed changes in the number of chemotherapy, radiotherapy and surgical patients:





Boileve et al. COVID-19 management in a cancer center: the ICU storm. Support Cancer Care. DOI: 10. 10.1007/s00520-020-05658-9

Country context: France

In this article, the authors report the response of their cancer centre to the COVID-19 outbreak in France, and how intensive care resources, including healthcare staff, were allocated and redistributed. They report how the cancer centre, intensivists, oncologists, pharmacists, and hospital administrators had to prepare for a surge in critical care need, with substantial increases in intensive care unit beds, medical intensive care beds, and surgical intensive care beds. They also report how the centre increased its supplies of drugs, ventilators and protective materials in response to the outbreak.

Subbian et al. COVID-19 and its impact on gynaecologic oncology practice in India-results of a nationwide survey. Ecancer medical science. DOI: 10.3332/ecancer.2020.1067.

Country context: India

This study assessed the changes in the care of gynaecologic oncology patients in India. It involved an online national survey conducted amongst healthcare professionals caring for gynaecologic cancer patients, when the caseload started rising steadily in several parts of the country, in May 2020. The total number of responses received was 153. Nearly all (96%) of the respondents reported a decrease in clinical practice during this period, with surgeries declining according to 98% of the respondents. Multidisciplinary tumour board meetings were discontinued in half the centres and when it was continued, 99% had made modification to switch to virtual platform or reduce the number of participants. PCR to detect active COVID-19 infection was done by most (84%) before start of the treatment. Most (93%) of the surgeons used additional protective measures in the operating theatre but full personal protective equipment was used only by 4%. There was a significant drop in gynaecologic oncology patients attending government hospitals as compared to the private sector. The drop was not significantly different in areas having low versus high COVID-19 case volumes. The treatment of endometrial cancers remained the same although there was a marked shift from minimal access surgery to conventional surgery. Advanced ovarian cancer was mostly managed by neoadjuvant chemotherapy. Cervical and vulval cancer management remained the same, but radiotherapy protocols were modified by most.

Smith et al. A system for risk stratification and prioritization of breast cancer surgeries delayed by the COVID-19 pandemic: preparing for re-entry. Breast Cancer Research and Treatment. DOI: 10.1007/s10549-020-05792-2

Country context: US

This article proposes a framework for assessing the risk of further delaying surgery for individual patients to prioritize surgical scheduling during the COVID-19 pandemic. The framework was developed based on factors related to risk of delaying surgery for breast patients which were identified from the literature. Scores were assigned to each factor, with higher scores indicating a greater risk from delaying surgery. The table below highlights the risk classification framework:

Risk stratification and prioritization of breast cancer surgeries delayed by the COVID-19 pandemic:

Risk factor	Risk score
Indication priority score—all patients	
Indication score	
Cancer—neoadjuvant chemotherapy	30
Cancer—neoadjuvant endocrine therapy or ER- DCIS or ER-, no chemotherapy	10
Re-excision, positive lumpectomy margin	4
ADH	3
Other atypia/probably benign	2
High-risk gene mutation	1
Symmetry/cosmetic	0
Scored only for cancer patients receiving neoadjuvant endocrine therapy	
Endocrine sensitivity score	
If genomic risk testing done	
Genomic risk test score—Oncotype DX	
< 18	0
≥ 18, < 31	1
≥ 31	5
Genomic risk test score—MammaPrint, EndoPredict, or other	
Low risk	0
High risk	5
If no genomic risk testing done	
ER strength score	
≥ 50% strong/moderate	0
11–49% strong/moderate	1
Any % faint or 1–10% strong/moderate or ER-	4
PR strength score	
Strong/moderate	0
Weak/negative	1
Tumor grade score	
1	1

Risk factor	Risk score
2	2
3	3
Tumor size (cm) score	
DCIS	0
Microinvasion (≤ 0.1)	1
> 0.1, ≤ 1.0	1
> 1.0, ≤ 2.0	2
> 2.0, ≤ 3.0	3
> 3.0	4
Patient age score	
≥ 70	0
≥ 50, < 70	1
≥ 35, < 50	3
< 35	4
Delay score	
Time since biopsy	
≥ 0, < 3 months	0
≥ 3, < 4 months	1
≥ 4, < 6 months	2
≥ 6 months	3
Imaging response score	
Responding	0
Stable	1
Progressing any site	4
Physical exam response score	
Not palpable and not palpable at diagnosis	0
Responding	0
Stable	1
Progressing any site	5
Scored only for cancer patients receiving neoadjuvant chemotherapy	

Risk factor	Risk score
ER score—neoadjuvant chemotherapy patients	
ER strong/moderate or low genomic risk	0
ER weak/negative or high genomic risk	10
Total risk score	

ER estrogen receptor, *PR* progesterone receptor

Maringe et al. The impact of the COVID-19 pandemic on cancer deaths due to delays in diagnosis in England, UK: a national, population-based, modelling study. Lancet Oncology. DOI: 10.1016/S1470-2045(20)30388-0

Country context: UK

This national population-based modelling study estimated the impact of delays in diagnosis on cancer survival outcomes in four major tumour types. It used National Health Service (NHS) cancer registration and hospital administrative datasets of patients aged 15–84 years, diagnosed with breast, colorectal, and oesophageal cancer between 2012 and 2014. It then used the routes-to-diagnosis framework to estimate the impact of diagnostic delays over a 12-month period from the commencement of physical distancing measures, on 16 March 2020, up to 1, 3, and 5 years after diagnosis. Across the three different scenarios, compared with pre-pandemic figures, the study estimated a 7·9 – 9·6% increase in the number of deaths due to breast cancer up to year 5 after diagnosis, corresponding to between 281 and 344 additional deaths. For colorectal cancer, it estimated 1445 to 1563 additional deaths, representing a 15·3 – 16·6% increase. For lung cancer, 1235 to 1372 additional deaths (4·8–5·3% increase); and for oesophageal cancer, 330 to 342 additional deaths (5·8–6·0% increase) up to 5 years after diagnosis were estimated. For these four tumour types, these data correspond with 3291–3621 additional deaths across the scenarios within 5 years.

Marron et al. Waging War on War Metaphors in Cancer and COVID-19. JCO Oncol Practice. DOI: 10.1200/OP.20.00542.

Country context: Global

In this editorial, the authors discuss how war metaphors have steadily made their way into the lexicon of oncology practice; with research showing that such metaphors are present in as many as two thirds of conversations between oncologists and their patients. They highlight specific use of metaphors such as patients' 'fight' against cancer, while 'battling' against significant survival odds with their clinicians and caregivers in a 'united front' against cancer, which is the 'common enemy' that 'invades' healthy tissues. They also describe how metaphors have been used in characterising how anti-cancer medicines 'attack' cancer cells, particularly 'front-line' therapy; how individuals complete their cancer treatment and are called 'survivors,' 'heroes,' and 'cancer veterans.' In spite of the appeal of these war metaphors, the authors argue that they can lead to feelings of disempowerment, guilt, and fatalism. They note that thought somewhat different from general oncology metaphors, those used in COVID-19 equally carry risks similar to those of cancer war metaphors. The recommend that war metaphors should be avoided, and should instead be replaced with

direct but compassionate language about cancer diagnosis, treatment and prognosis. The table describes some of the commonly used metaphors and their negative implications:

TABLE 1. War Metaphors in Cancer and COVID-19

Metaphor	Positive Implications	Negative Implications
Cancer		
The "war" on cancer	Easy to understand Can instill for some a sense of purpose	Leads to assumptions of winners (those cured) and losers (those who die or whose disease recurs/progresses)
Patients as heroes	Empowerment Acknowledgment of cancer treatment as a difficult process	Minimizes the contributions of other efforts, such as those in cancer control, risk reduction, and drug discovery
"Ready to fight"	Empowerment and a sense of control Action-based	Assumes the ability to fight (and win) is in the patient's power Equates the choice "not to fight" with giving up, not wanting to win, and weakness
"Beating" cancer	Activates patients, families, and communities against a common foe Suggests action and strength	Victimizes those who cannot "beat" the disease May imply that those who "lose" didn't try hard enough
COVID-19		
The "war" on COVID-19	Expresses the urgency of the pandemic Serves as a rallying cry for medical societies and the public	Assumes we have enough personnel, a national strategy, and the right weapons and protections
Health care workers as heroes	Empowering, positive framing Acknowledges the significant risks health care workers face	Implies that all health care workers choose to put themselves in harm's way, even at their own personal risk Minimizes the work and efforts of workers not in the health care field
PPE as armor	Highlights the urgency of PPE shortages in health care, locally and nationally	May worsen PPE shortage because of increased demand from the public Oversimplifies the science of disease contagion
Fighters on the "front lines"	Recognizes the risks being taken by those potentially and actually exposed to the virus	Enables passivity from the larger community because of a disconnectedness with the COVID-19 problem Minimizes the risks taken and work performed by others, including other health care staff and nonmedical essential workers