Cancer in the context of COVID-19: Summary of emerging evidence (13)

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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 13th of our weekly compilation, which we plan to update and disseminate as the pandemic evolves globally and nationally.

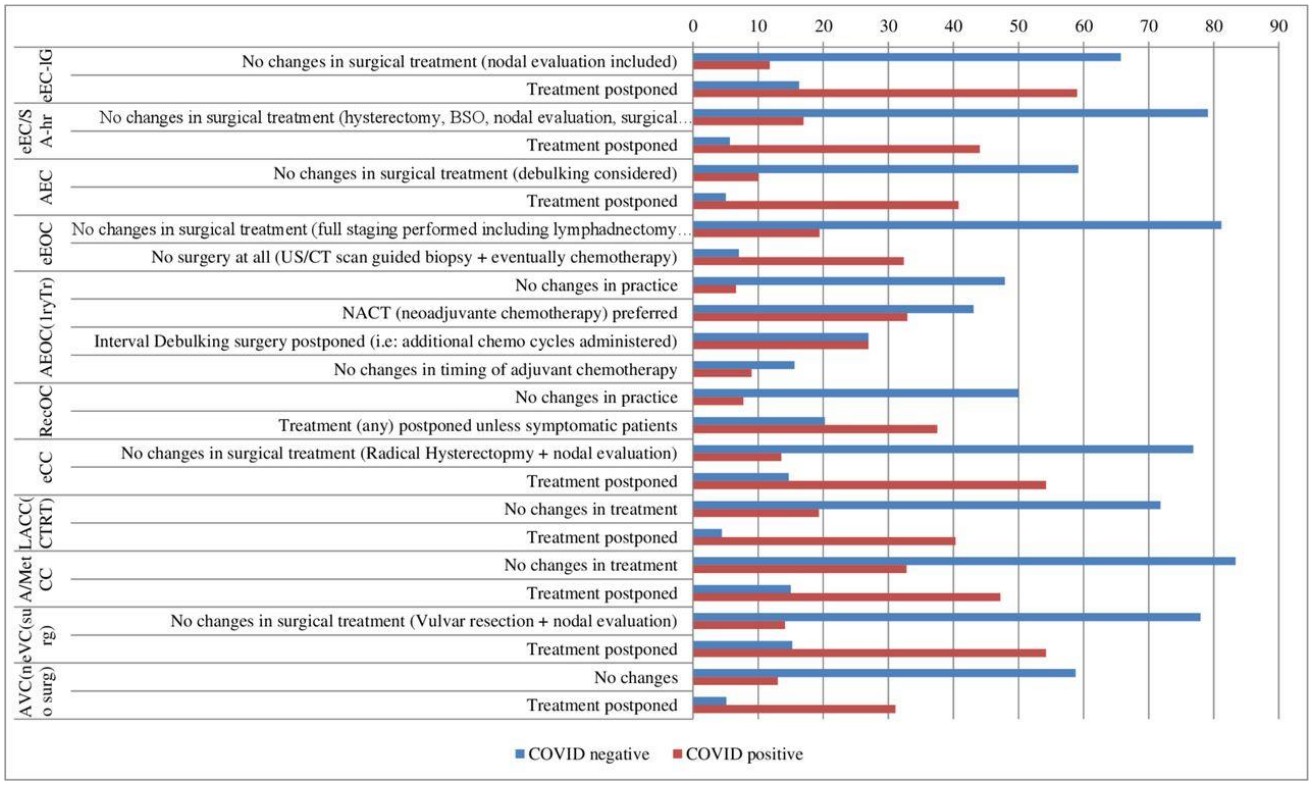
This week, we highlight the latest research and evidence related to oncology services in COVID-19 outbreak contexts globally. We hope that insights from these pieces of evidence will help guide how we rethink cancer prevention, treatment and care in the context of the ongoing pandemic, in view of its unprecedented implications for patients, healthcare providers and the community in general. We are keen to include research and guidelines from African and other low- and middle-income settings and will profile these as they become available. Previous weeks' editions can be found on the **CRI website,** as well as on **our Twitter page (@UctCri)**.

Martinelli et al. Change in Practice in Gynecologic Oncology During the COVID-19 Pandemic: A Social Media Survey. Int J Gynecol Cancer. DOI: 10.1136/ijgc-2020-001585

Country context: Global

This study aimed to evaluate the changes that occurred in gynaecologic oncology practice during the COVID-19 pandemic through a social media survey. A total of 187 respondents completed the survey, across 49 countries. The majority (76%) were gynaecologic oncologists. About half (49.7%) of the respondents were facing the early phase of the COVID-19 pandemic in their contexts, while 26.7% and 23.5% were in the peak and plateau phases, respectively. Nearly all (97.3%) of the respondents reported that COVID-19 affected or changed their respective clinical practice. A minority of them did not perform any tests to rule out COVID-19 infection among patients before surgery (16%) and before medical treatment (25%). The majority of respondents did not alter indications of treatment if patients were COVID-19-negative, while treatments were generally postponed in COVID-19-positive patients. Treatments were considered priority for: early stage high-risk uterine cancers (45%), newly diagnosed epithelial ovarian cancer (41%), and locally advanced cervical cancer (41%). About 20% of respondents reported changes in surgical treatment for early stage cervical cancer in COVID-19-negative patients, while treatment was postponed by 54% of respondent, if the patient tested COVID-19-positive.

Changes in treatments according to COVID-19 status are shown in the figure below:



eEC-lG, early stage low grade endometrioid endometrial cancer; eEC/SA-hr, early stage high-risk (high grade, serous…) endometrial cancer and uterine sarcomas; AEC, advanced stage endometrial cancer; eEOC, early stage epithelial ovarian cancer; AEOC(1ryTr), advanced stage epithelial ovarian cancer (primary treatment); RecOC, relapsed ovarian cancer; eCC, early stage cervical cancer; LACC(CTRT), locally advanced cervical cancer (chemo-radiation); A/MetCC, advanced/metastatic cervical cancer; eVC(surg), early stages vulvar cancer (surgically resectable); AVC, advanced stages vulvar cancer; BSO, bilateral salpingo-oopherectomy; US, ultrasound.

Head and Neck Cancer International Group (including Prof Johannes Fagan). Recommendations for head and neck surgical oncology practice in a setting of acute severe resource constraint during the COVID-19 pandemic: an international consensus. The Lancet Oncology. DOI:https://doi.org/10.1016/S1470-2045(20)30334-X

Country Context: Global

The Head and Neck Cancer International Group (HNCIG), a collaboration of 20 national clinical trial groups for head and neck cancer across three continents, identified an urgent need for consensus practice recommendations for head and neck surgical oncology that could be applied globally in the setting of severely constrained resources. To address this need, they developed expert consensus recommendations for the management of surgical patients with head and neck cancer during the COVID-19 pandemic using a modified online Delphi process with representation from the relevant multidisciplinary bodies worldwide. The consensus

recommendations addressed three main oncology areas: clinical and diagnostic protocols, treatment protocols, and prioritisation of treatment protocols.

Clinical and diagnostic protocols:

	Agreement level
Clinical and diagnostic procedures	
Use of flexible nasendoscopy	
For patients with symptoms or signs suggestive of a new primary cancer or recurrence: use flexible nasendoscopy only if adequate PPE is available and do not use flexible nasendoscopy in absence of adequate PPE	Strong agreement
For patients with concern for critical airway obstruction: use flexible nasendoscopy only if adequate PPE is available and no not use flexible nasendoscopy in absence of adequate PPE	Strong agreement
For asymptomatic patients with a previous history of head and neck cancer attending clinic for routine follow-up: do not use flexible nasendoscopy in absence of adequate PPE	Strong agreement
For patients with no history of head and neck cancer presenting with low-risk symptoms (eg, globus pharyngeus): do not use flexible nasendoscopy	Strong agreement
To confirm a diagnosis of head and neck cancer	
Positive fine needle aspiration or core biopsy of a suspicious lymph node and suspicious imaging together are acceptable	Strong agreement
Suspicious findings on imaging, whether CT, MRI, or PET-CT scans alone, without biopsy, are not acceptable	Strong agreement
If a biopsy under local anaesthesia can be done, no panendoscopy is needed	Strong agreement
If a biopsy under general anaesthesia is needed, a full panendoscopy should be done at the same time	Agreement
Follow-up of patients with head and neck cancer ≥3 months after surgery	
Use video or phone consultations, with face-to-face reviews only in the case of suspicious findings	Strong agreement
Use a combination of routine scheduled face-to-face and video or phone consultations	Agreement
Do not stop follow-up completely	Strong agreement
Maintain the normal frequency of follow-up	Agreement
Minimum criteria required for diagnosing a patient with COVID-19 before head and neck cancer surgery	
COVID-19 status should be considered before surgery	Strong agreement
Positive laboratory test alone is sufficient	Strong agreement
Positive clinical history and positive laboratory test together are sufficient	Agreement
Positive clinical history (including symptoms) alone is not sufficient	Agreement
Positive chest imaging alone is not sufficient	Strong agreement
Delay of surgery in patients with confirmed or highly suspected COVID-19, with no indication for emergency intervention	
Delay operation until patient symptoms resolve and negative COVID-19 repeat laboratory testing	Strong agreement

Treatment protocols:

Treatment protocols	
For T1–T2 N0 oral cancer	
Operate within 8 weeks from diagnosis	Strong agreement
Do not delay surgery for up to 12 weeks from diagnosis	Strong agreement
If surgery delay of 4–8 weeks is anticipated, do not treat immediately with alternative treatments such as radiotherapy	Strong agreement
If surgery delay of 4–8 weeks is anticipated, use serial monitoring with surgery or alternative treatment (eg, radiotherapy) only if tumour progresses clinically significantly	Strong agreement
If surgery delay of >8 weeks is anticipated, use serial monitoring, with surgery or alternative treatment (eg, radiotherapy) only if tumour progresses clinically significantly	Agreement
If surgery delay of any duration is anticipated, do not treat with palliation as primary treatment	Strong agreement
For early T1 N0 laryngeal cancer	
Can delay surgery for >4 weeks, if necessary	Agreement
Do not delay surgery beyond 8 weeks	Strong agreement
Treat immediately with radiotherapy as an alternative to surgery	Agreement
If surgery delay of 4–8 weeks is anticipated, recommend radiotherapy immediately instead of surgery	Agreement
If surgery delay of >8 weeks is anticipated, recommend radiotherapy immediately instead of surgery	Strong agreement
Do not use serial monitoring with treatment only if tumour progresses	Agreement
Do not treat with palliation as primary treatment	Strong agreement
For advanced head and neck cancer	
Do not delay surgery; operate within 4 weeks of diagnosis	Strong agreement
Do not use serial monitoring or give palliation as only treatment	Strong agreement
Give alternative treatment (eg, radiotherapy or chemoradiation) immediately if surgery cannot occur within 4 weeks	Strong agreement
For differentiated thyroid cancer (T1–T3 or N0–N1b) with no adverse features	
Can delay surgery for up to 12 weeks from diagnosis, if necessary	Strong agreement
Do not delay surgery for up to 18 weeks from diagnosis	Agreement
If surgery is not possible within 12 weeks, use serial monitoring and only consider surgery if the tumour progresses clinically significantly	Strong agreement
If surgery is not possible within 12 weeks, do not treat with radioactive iodine or radiotherapy or palliative treatment as the primary treatment option	Strong agreement
Surgery delay	
Use serial monitoring to assess tumour progression while waiting	Strong agreement
Promptly re-evaluate treatment options if any evidence of tumour progression	Strong agreement
Actions to optimise resources and reduce risk to patients and staff	
Only experienced surgeons should operate on patients	Strong agreement
Avoid a tracheostomy in an oropharyngeal cancer undergoing transoral surgery	Strong agreement
Do not avoid primary free flap reconstruction in favour of delayed reconstruction at a later date	Strong agreement
Avoid primary free flap reconstruction and instead do local or pedicled flap, if appropriate	Agreement
Do not avoid neck dissection or sentinel node biopsy in a radiologically N0 neck cancer at risk of occult metastasis in a T1–T2 or T3–T4 oral or oropharyngeal cancer	Strong agreement
Do not avoid salvage surgery	Strong agreement
Do not avoid a tracheostomy in an advanced T2–T3 oral cancer requiring free flap	Agreement
Palliative care as primary treatment in severly constrained settings	
Offer primary palliation to patients with poor functional status (eg, spends >50% of the day in bed or Eastern Cooperative Oncology Group performance status 3) who have advanced disease	Strong agreement
Offer primary palliation to patients with advanced biological age (eg, >85 years) who have advanced stage disease	Strong agreement

PPE=personal protective equipment. Strong agreement indicates a threshold of 80% and above. Agreement indicates a threshold of 67% and above after the third round for statements not considered to have reached a strong agreement.

Treatment prioritisation protocols:

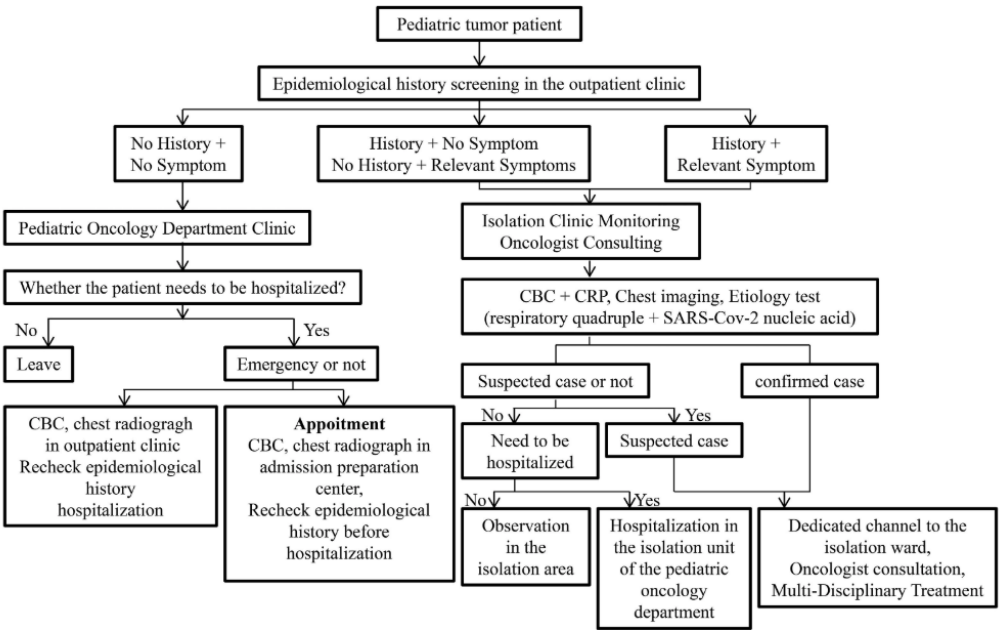
	Average aggregated scores (Round 1)	Average aggregated scores (Round 2)	Head and neck surgical scenarios
1	10·5	11·7	T3 N2 oral cancer
2	10·0	10·9	T4 N1 laryngeal cancer
3	8·8	9·8	T4 N0 maxillary cancer
4	8·0	8·7	T4a N1 papillary thyroid cancer with tracheal invasion
5	7·9	8·0	T3 N1 carcinoma ex-pleomorphic parotid cancer
6	6·9	6·9	T1 or T2 N0 oral cancer
7	6·7	6·1	T2 N1 oropharyngeal cancer p16-negative
8	4·6	4·8	T2 N1 oropharyngeal cancer p16-positive
9	4·2	3·8	T0 N1 unknown primary
10	4·1	3·5	T2 N0 adenoid cystic oral cavity
11	3·4	2·4	T1 N0 laryngeal cancer
12	3·1	1·4	T2 N0 papillary thyroid cancer with a posterior nodule

Head and neck surgical scenarios are ranked in order of priority, from highest to lowest. Rankings did not change between the first round and second round, so the question was not asked again in the third round.

Zheng et al. Prevention and control strategies in the diagnosis and treatment of solid tumors in children during the COVID-19 pandemic. Pediatric Hematology and Oncology. DOI: 10.1080/08880018.2020.1767740

Country context: Global

This article proposes a clinical management framework for children with solid tumors to guarantee emergency surgery, rationally arrange limited-term surgery, appropriately defer elective surgery, and guarantee regular chemotherapy, while protecting children from SARS-CoV-2 infection and ensuring the continuity of comprehensive diagnosis and treatment. The figure below illustrates the proposed admission management flow of paediatric tumor patients during the SARS-CoV-2 pandemic:



Indini et al. Developing a Risk Assessment Score for Patients With Cancer During the Coronavirus Disease 2019 Pandemic. Eur J Cancer. DOI: 10.1016/j.ejca.2020.05.017

Country context: Italy

Following a comprehensive review of the literature on COVID-19 pathogenesis in cancer patients, the authors identified and selected several shared features (including clinical and laboratory variables) to define which patients can be considered at higher risk of COVID-19. They combined these variables, with the aim of developing a score to assess the risk of COVID-19 in patients with cancer. The table below illustrates the scoring framework:

Table 1
The 'Milano Policlinico ONCOVID Score' for risk evaluation in oncology during the COVID-19 pandemic.

Variables	Score	Categories of risk for patients and for treatment delays during COVID-19 diffusion
Patient characteristics		**Score <4: low risk**
Sex	F = 0 M = 1	• Maintain treatment schedule. • Consider treatment delay in the presence of additional risk factors (e.g. comorbidities[a]) or to reduce hospital access. • Consider telemedicine to monitor patients receiving an outpatient-basis treatment (e.g. oral anticancer drugs, HT).
ECOG PS	0–1 = 0 ≥2 = 1	
Age	<70 = 0 ≥70 = 1	
BMI	<30 = 0 ≥30 = 1	**Score 4–6: intermediate risk** • Consider treatment delays (e.g. modification of treatment schedules) for patients with partial response to treatment. • Consider treatment holidays for patients treated with IT or CT + IT for ≥6 months and/or with complete response to treatment. • Carefully monitor patients with history of irAEs.
Comorbidities[a]	No = 0 Yes = 1 Yes >1 = 2	
Concomitant steroid treatment[b]	No = 0 Yes = 1	
Disease characteristics		**Score ≥7: high risk** • Patients need to be frequently monitored for symptoms, also with the aid of telemedicine. • Variations in laboratory values may indicate subclinical changes. • Maintain treatment schedules only if safe administration is guaranteed; tailor treatment administration depending on the type of treatment and disease response. • Avoid unnecessary procedures (e.g. radiologic examinations) to reduce hospital access.
Thoracic tumour	No = 0 Yes = 1	
History of thoracic RT[c]	No = 0 Yes = 1	
Treatment characteristics		
Line of treatment	Adjuvant = 0 ≥1 = 1	
Type of treatment	HT/TKIs/TT/mAb = 0 CT = 1 IT/IT + CT = 2	
History of irAEs[d]	No = 0 Yes = 1 Yes, pneumonitis = 2	
Laboratory values		
NLR	<5 = 0 ≥5 = 1	
LDH	<ULN = 0 ≥ULN = 1	
CRP	<ULN = 0 ≥ULN = 1	

BMI, body mass index; COVID-19, coronavirus disease 2019; CRP, C-reactive protein; CT, chemotherapy; ECOG, Eastern Cooperative Oncology Group; F, female; HT, hormonal therapy; irAEs, immune-related adverse events; IT, immunotherapy; LDH, lactate dehydrogenase; M, male; mAb, monoclonal antibody; NLR, neutrophil-to-lymphocyte ratio; PS; performance status; RT, radiotherapy; TKIs, tyrosine kinase inhibitors; TT, targeted therapy; ULN, upper limit of normal.

[a] Comorbidities include hypertension, cardiovascular disease, diabetes, chronic obstructive pulmonary disease and chronic systemic infections.

[b] Concomitant steroid treatment includes continuous therapy with a dose of >10 mg daily of prednisone equivalent, lasting for more than the 1-month period.

[c] Only for patients with extrathoracic tumours.

[d] Only for patients treated with IT or IT + CT.

Shirke et al. Tele-oncology in the COVID-19 Era: The Way Forward? Trends Cancer. DOI: 10.1016/j.trecan.2020.05.013.

Country Context: Global

In this perspective article, the authors review the literature on the effectiveness of tele-oncology: defined as the delivery of clinical oncology services via audio and video communication technologies to patients at a distance. These services include providing remote chemotherapy supervision, symptom management, and palliative care to cancer patients. They discuss some of the practical implications of tele-oncology for patients and care providers. They highlight the advantages and disadvantages of the various tele-oncology platforms in the table below:

Technology	Advantages	Disadvantages
Web conferencing	• Low cost • Wide availability	• Limited resolution of images • Participants may not see each other
Video conferencing	• Good image resolution • Participants can see each other • Readily available • Can present/interview patients	• Expensive • Requires maintenance
Tele-synergy	• A multimedia workstation integrates all components for collaborative multidisciplinary tele-oncology • Transmits images from their primary sources • Allows image manipulation • Supports comprehensive multidisciplinary case review and discussion • Supports collaborative planning of radiation and surgery	• Very expensive • Requires ~20 ISDN channels • Requires many peripheral components • Difficult to install • Requires intensive maintenance • Requires dedicated storage space
Virtual tele-microscope	• Operator can control microscope without special hardware or software	• Limited to pathology • Expensive • Performance depends on the user's computer

Joharatnam-Hogan et al. COVID-19 Cancer Conundrum-Evidence Driving Decisions or the Lack of It? BMC Med. DOI: https://doi.org/10.1016/S1470-2045(20)30278-3

Country context: UK

In this commentary, the authors stress the need for the critical review and interpretation of the evidence on the association between cancer and COVID-19 morbidity and mortality. They note that the current evidence suggesting the higher risks of severe and fatal COVID-19 outcomes in people with cancer remains inconclusive and is a focus of ongoing research. They report the findings of their collaborative study of five hospitals in North London, which found no significant differences in mortality of two consecutive cohorts comprising of COVID-19 positive cancer and non-cancer patients. They call for further research to evaluate these risks in well-designed studies, while recommending the generation of timely evidence on the impact of COVID-19 on cancer care and patient outcomes to guide future cancer care delivery and cancer research.

Beddok et al. Post-lockdown Management of Oncological Priorities and Postponed Radiation Therapy Following the COVID-19 Pandemic: Experience of the Institut Curie. Radiother Oncol. DOI: 10.1016/j.radonc.2020.05.043

Country context: France

In this letter, the authors propose some key considerations to prepare for the post-lockdown period using the guidelines adopted by their radiotherapy department. In order to optimally reschedule the postponed treatments following the easing of lockdown, priorities were established. Patients with non-resected tumors (such as head and neck) who required confinement during the lockdown (e.g., severe COVID-19 infection) were prioritised first. Patients with postponed stereotactic irradiation were second. Then, in order: (1) hormone-receptor-negative breast cancer (and therefore with no treatment since surgery); (2) hormone-receptor-positive breast cancer (exceptionally treated with hormone therapy [HT] since surgery); (3) non-operated prostate cancer with no indication for HT; (4) operated prostate cancer with no indication for HT; (5) non-operated prostate cancer treated with HT; and (6) operated prostate cancer treated with HT.