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**Oncology Care Delivery in the COVID-19 Pandemic – An Opportunity to Study Innovations and Outcomes**

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Oncology Care Delivery in the COVID-19 Pandemic – An Opportunity to Study Innovations and Outcomes

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COVID 19 Pandemic Challenges for Oncology Practitioners:

Oncology professionals face complex challenges related to the COVID-19 pandemic. Practices are confronted with varying shortages of diagnostic tests, personal protective equipment, ventilators, practice capacities, variable infection rates, a rising death toll, and the need to triage care while minimizing the risks to our patients, their caregivers, our colleagues, ourselves, and our families. In this context, the editors of JCO OP have prioritized the publication of COVID-19 related articles providing early insights into how clinicians and practices are responding to COVID-19. These reports include duplicate information, yet such is reassuring, potentially defining best practice amidst a natural experiment in crisis oncology care delivery.

JCP OP Response to Help Practitioners:

COVID manuscripts published in JCO OP incorporate existing evidence alongside expert opinion to address many ethical, organizational and operational challenges. Some of the manuscripts touch on crisis care delivery of disease focused issues. The ASCO family of journals are working closely with ASCO’s COVID-19 website to link key articles as soon as they are accepted allowing early access prior to online publication.1

Ethical Principles when Triage is Needed:

Cancer patients are greatly affected by both COVID-19 and policies around resource allocation. The ASCO Ethics committee guidance provides an ethical framework to help practices make resource allocation decisions, balancing our duties of non-malfeasance and justice2. Clinicians
juggle roles – we are providers, colleagues, and family members – and in our effort to address patients’ needs, our duty to those close to us creates moral conflicts - “we may perpetrate, bear witness to, or fail to prevent an act that transgresses our deeply held moral beliefs.”³ The ASCO Ethics statement provides an articulation of the ethical rationale and the decision-making processes, making this burden easier to bear and to explain to worried patients and families.

**COVID 19 Triage Guidelines for Practices and specific Diseases:**

Editors selected manuscripts for publication that prioritized multidisciplinary teams’ disease-specific approaches that deliver the best possible evidence-based care while pragmatically balancing quality and risk with available resources and the differing impacts of local infection rates. Waisberg et al outline four guiding principles for adapting cancer therapies in the COVID-19 era, providing a helpful framework for local triage guidelines.⁴

In their manuscript, “Practical considerations for cancer patients in the COVID-19 pandemic”, Segelov et al. provide a comprehensive framework of how they addressed disease specific treatment options for their patients in Australia.⁵ The authors (all medical oncologists) sought to standardize care across disease groups in anticipation of the limited resources. The paper presents the recommendations of these disease groups for various clinical scenarios impacted by COVID-19. These recommendations embody infection control, patient triage and escalation of care, access to cancer therapy and psychosocial aspects of the pandemic on both patients and healthcare workers.
An additional step the editors feel needs acknowledging is the importance of multidisciplinary planning starting from the time of patient diagnosis. Such planning is impacted by the pandemic, with delays of elective surgeries and procedures becoming commonplace amidst debates about which cancer surgeries are truly ‘elective’. Often diagnostic procedures such as CT-guided or endoscopic biopsies are limited and therapeutic procedures such as paracentesis, thoracentesis and embolization are not readily available. For these reasons, multidisciplinary discussions to guide treatment planning are of paramount importance and can be accomplished using the tools of virtual meetings. The recommendations in Segelov et al, and other manuscripts will change rapidly as reliable virus and antibody testing become readily available. Multidisciplinary specialty conversations will remain key to adjust to changes and to coordinate the timing and sequence of systemic therapy, radiation therapy and surgery, as well as supportive services. Unless there is continuous communication between disciplines, the evolving paradigms with COVID-19 will not be fully optimized to maximize clinical outcomes.

Dr. Percival and his Seattle Cancer Care Alliance colleagues’ manuscript, “Considerations for Managing Hematologic Malignancies During the COVID-19 Pandemic: The Seattle Strategy,” outline their COVID-19 related triage of hematology patients. As Washington state was an epicenter of the January 2020 US COVID-19 outbreak, their work presents a practical approach to managing these vulnerable patients during the pandemic, and one that should be broadly applicable to other practices. A paper by Lou et al details triage considerations for GI malignancies developed by a multi-institutional panel of US experts, offering recommendations for COVID related treatment modification considerations. Dr. Singh et al, facing high volumes
of COVID-19 cases in the Philadelphia area, shared multidisciplinary guidelines for “Management of Lung Cancer during the COVID-19 Pandemic”. Lung cancer management during this pandemic poses a significant challenge due to an often-older age patient population, overlapping symptoms and the fact that radiographic manifestation of SARS-CoV-2 infection can mimic immune related or other drug related toxicities. Their guidelines lay out strategies for standardizing management of lung cancer that can be adopted across practice sites. The French Society for Oncology Pharmacy (FSPO), a leader in multi-institutional oncology pharmacy guidelines for France and the European Society for Oncology Pharmacy (ESOP) describe 26 widely adoptable recommendations in 8 categories for oncology pharmacies and pharmacists to safeguard cancer patient care while limiting the risks of SARS-CoV-2 transmission.

**COVID 19 spurs Care Delivery Innovations:**

The pandemic is leading to rapid changes to the ways we deliver cancer care. In addition to triage guidelines, *telehealth* - remote telephone or televideo health services, and *teleoncology* - remote telephone and televideo oncology services, have expanded rapidly after the Center for Medicare and Medicaid Services lifted restrictions and expanded payment rules. This was done on a temporary and emergency basis under the 1135 waiver authority and Coronavirus Preparedness and Response Supplemental Appropriations Act starting March 6, 2020. The article by Dr. Liu et al. describes the impacts of rapid tele-oncology deployment to the 4 million patients served by Kaiser Permanente Northern California. Their initial deployment during the northern California wildfires prepared them for early expansion across their network when the
COVID-19 pandemic started. They provide data on patient and provider satisfaction and practical advice for others implementing teleoncology. In another paper highlighting the challenges of oncology care amidst the pandemic, Drs. Holstead and Robinson share key modifications of the SPIKES criteria to give guidance on a WIRE SPIKE process to help clinicians navigate the challenge of giving serious or bad news remotely using tele-oncology. Giving serious news remotely is a new experience for most oncologists who hold dear and prioritize the intimacy of patient care in practice.

Dr. Raghavan et al. provide operational guidance based on the expertise available from the Levine Cancer Center. This paper addresses the challenges of a large network of cancer practices serving a diverse population from those in rural areas to urban regions. Their multidisciplinary approach can be informative to oncology practitioners in any setting. Addressing fellows in training is a challenge addressed by Dr. Balanchivadze and colleagues from the Henry Ford Hospital Program in Michigan. Balancing the training requirements of hematology oncology fellows with rapidly escalating internal medicine care needs in highly impacted teaching hospitals is critical to maintain the diverse oncology specific experiences needed for fellows to be certified. Oncology-Hematology fellows with recent internal medicine training are immediately available for front line clinical care yet doing this while fulfilling their fellowship training requirements requires thoughtful rescheduling.
Crisis Impacts Clinical Trials-with Modifications and Innovations:

COVID-19 has forced us to develop new models of delivering and prioritizing care to cancer patients at every step of their journey. Many questions remain regarding the effect these changes will have on patient outcomes, clinical trials, future cancer care delivery and the disparities in access to care during and following the pandemic. Clinical trials have been interrupted; with decreased accrual rates, increases in protocol deviations and the need for changing the day-to-day practices of trial infrastructure. However, per the site survey conducted by ASCO, there may be “long-term opportunities to transform clinical trials and refine existing research infrastructure” following the pandemic. Examples include promotion of telehealth for informed consent processes, patient reported review of symptoms and delivery of oral therapies to patients’ homes.\textsuperscript{14} Indeed, there is reason to believe that these changes in care delivery will extend well beyond the conduct of trials.

Supportive Care Innovations also Call for Scientific Inquiry:

The crisis is re-emphasizing to practitioners the value of listening to patients via technologic tools and expanding team based care to better address patient needs. Using telehealth to provide many supportive care functions allows practices to extend these important services to more patients and through telehealth partnerships, the ability to offer expanded types of supportive services. This will challenge practices to examine the costs and outcomes of providing various types of remote supportive care whether through the practice itself or through remote partnerships. This can be compared to the ‘old way’ of providing available in-practice services or services for those willing and able to travel. The benefits of collecting and
addressing electronic Patient Reported Outcomes remotely to monitor symptoms and reduce unplanned potential healthcare utilization is well known, yet doubly important in a pandemic as described by Marandino et al.\textsuperscript{15} and Basch et al.\textsuperscript{16} One possible silver lining to this grim situation faced by the world today, will be newly learned skills that could serve us long after the pandemic has subsided. Tele-oncology is an area where outcome data on efficacy and costs will likely support continued use as described by Gill et al. from their rural Utah teleoncology initiative which predated the pandemic.\textsuperscript{17} Exercise physiologists Newton and colleagues highlight another opportunity to provide and study telehealth options to engage cancer patients in regular exercise which is a challenge during sheltering in place yet can improve outcomes.\textsuperscript{18} Our challenge is to learn from these many opportunities to provide virtual and innovative state-of-the-art multidisciplinary cancer care by measuring impacts and outcomes, especially in those populations who were deprived of it in the past due to disparities, distance, geography or lack of tele-oncology payments as emphasized by Singh S, et al.\textsuperscript{19} Sahu et al outline an array of other questions which require additional studies - infection susceptibility by tumor type, interactions of any antiviral therapies with oncology drugs, impact of antiviral agents, impact of smoking or tobacco use on elevated ACE-2 receptors - all questions in flux.\textsuperscript{20}

**Care for the COVID 19 Positive Cancer Patients:**

A further consideration is treatment planning for patients with cancer who have a confirmed COVID-19 diagnosis. For established patients with cancer receiving therapy, delay of therapy may be considered. However, this is not always possible due to aggressiveness of disease or detrimental effects of treatment interruptions. Close collaboration with infection control
teams is required to protect other patients and practice staff from infection. Locally advised protocols, incorporating recommendations of infection control and knowledge of local supplies and capabilities, define how and where patients with COVID-19 can start, continue, modify or resume anti-cancer therapy. A case report on managing cancer patients with febrile neutropenia associated with SARS-CoV2 infection may help inform aspect of care.21

**Science of New Models on Impacts and Outcomes for Care Delivery and Quality:**

The editors of JCO OP would like to extend our appreciation to those who have submitted manuscripts to help practices facing the sudden need to ethically triage oncology care while expanding teleoncology services. These papers highlight the opportunity that challenges hold to rigorously study new care delivery methodologies and their impacts on improving the value of cancer care. We look forward to submission of original research papers that present new insights that can guide further improvements in oncology care delivery and care quality. Papers adopting prospective, comparative methodologies which are scientifically vigorous and deal with questions that are broadly applicable to oncology practice will be given priority. The editors also welcome pre-submission inquiries, particularly regarding manuscripts that relate to the pandemic, considering the rapidly changing practice environment. Despite the challenges and ongoing uncertainties this pandemic presents, one thing that has not and will not change - the commitment of JCO OP to publish scientific studies on improving care delivery and care quality while promoting patient, staff, practice and delivery system well-being, policies and care delivery reviews to improve value based cancer outcomes for the patients we serve.
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