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A War on Two Fronts: Cancer Care in the Time of COVID-19

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The rapidly expanding coronavirus disease 2019 (COVID-19) (SARS–CoV-2) acute respiratory pandemic has assaulted all aspects of daily life (1, 2). As of 25 March 2020, there were more than 450 000 cases worldwide. In the absence of a vaccine or a therapeutic agent, a "social distancing" strategy is the primary intervention to hamper the spread of infection (1). A major fear of most governments and individuals is the heavy impact on the health care delivery system. Cumbersome diagnostic testing, inadequate protective supplies for frontline providers and first responders, and limited hospital capacity—including intensive care—have all conspired to create an environment compared to warfare (3).

During this extraordinary time, the oncology community faces unprecedented challenges. According to the American Cancer Society, this year nearly 5000 new cases of cancer will be diagnosed per day in the United States. Initial reports suggest that COVID-19 can be particularly lethal in patients with cancer (2). As such, oncology specialists as well as other providers regularly involved in the diagnosis, active treatment, and longitudinal follow-up of patients with cancer must consider how to 1) balance a delay in cancer diagnosis or treatment against the risk for a potential COVID-19 exposure, 2) mitigate the risks for significant care disruptions associated with social distancing behaviors, and 3) manage the appropriate allocation of limited health care resources in this unprecedented time of health care crisis.

Risk From Delay of Treatment Versus Harm of COVID-19 Exposure

It is known that COVID-19 disproportionally harms elderly persons and those with comorbid conditions (4). A current or past cancer diagnosis appears to place infected patients at substantially increased risk. In early reports from China, patients with cancer who acquired COVID-19 had a higher risk for significant morbidity, including requirements for ventilatory support or death (hazard ratio, 3.56 [95% CI, 1.65 to 7.69]) (2). Thus, in patients with cancer, the utility of intervention must be weighed against the risk for inadvertent COVID-19 exposure in the health care system, especially during the initial weeks of the pandemic, when the risk for viral dissemination cannot be quantified and remains largely unknown.

Furthermore, the potential for increased vulnerability to adverse outcomes from COVID-19 after oncologic treatments, such as surgery, systemic chemotherapy, or radiation therapy, must be considered. The **Figure** provides guidance for nonspecialists in oncology about the effects of delayed diagnosis or treatment in common cancer scenarios. Many solid tumors (such as lung or pancreatic cancer) and some hematologic cancers (such as acute leukemia) require immediate diagnosis and treatment. However, other common early-stage cancers (breast, prostate, cervical, nonmelanoma skin) may not. The quality of evidence in some cases is inadequate to support "one size fits all" statements applicable to every patient. However, experienced oncology providers should feel confident exercising judgment regarding which patients need to initiate or continue treatment owing to their tumor's more aggressive biology versus those who can tolerate a delay. Decision making may change as efforts by the health care system to mitigate risks for exposure to COVID-19 improve (5). Indeed, consensus recommendations swiftly began to appear to help providers make appropriate triage decisions (6). For persons with advanced oncologic disease, futility of treatment in the context of COVID-19 must be frankly considered and discussed.

Social Distancing and Its Compromise During Care Delivery

Restrictive social distancing has been promoted as effective to stem pandemics in the past and appears to be the most promising strategy during this early stage of the COVID-19 crisis (1, 7). This strategy emphasizes the concept of "mitigation," where the number of severe cases in the health system at a given time is minimized to reduce preventable deaths from resource overload (1).

Every patient who engages with the traditional oncology care delivery system significantly disrupts this social distancing tactic, resulting in innumerable ripple effects. Clinic visits, surgical stays, infusion sessions, radiation planning and treatment appointments, hospital admissions, phlebotomy visits for laboratory tests, and radiographic imaging studies—all often attended with family members in tow—result in a massive number of personal contact points and many potential opportunities for viral transmission.

Another consideration are clinical trials, which are a unique part of medical oncology and cancer care in general. Entry into a research study is considered standard of care for many patients with locally advanced or advanced cancer. Most trials require additional appointments and tests, further increasing the potential for infection. Furthermore, the supply of novel drugs, both in terms of manufacture and distribution, may be compromised. The National Cancer Institute and the U.S. Food and Drug Administration have issued preliminary guidance regarding these issues (8), but there is an urgent need for clear instruction and methods to

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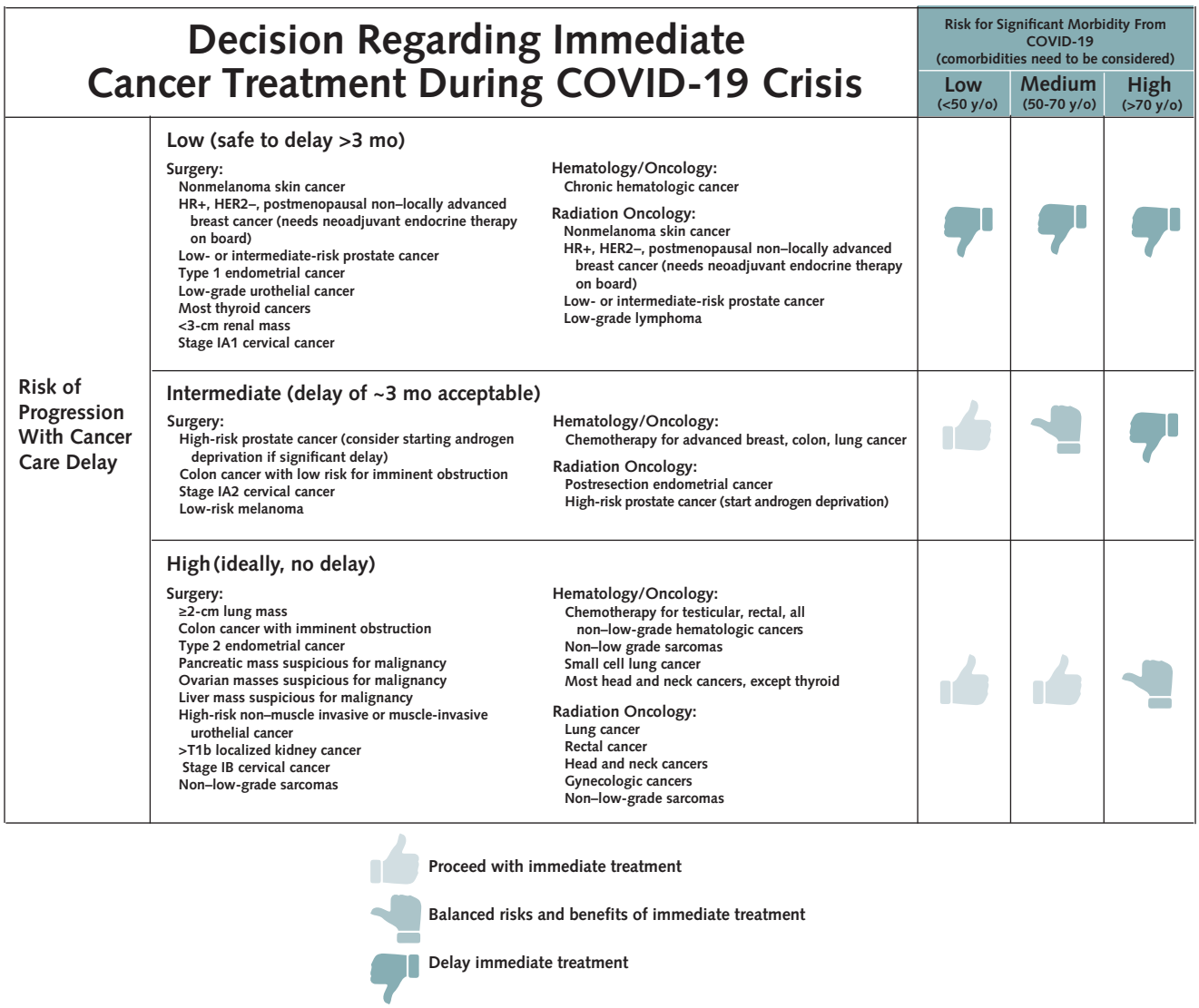
Figure. Guidance on decisions about immediate cancer treatment during the COVID-19 crisis.



Robust outcomes evidence supporting a decision to initiate or delay cancer care is often lacking. Recommendations in this figure are consensus-based and should be used as a general guideline only. Expert oncologic opinion tailored to individual patient and local health system conditions should always be obtained. COVID-19 = coronavirus 2019; HR+ = hormone receptor–positive; HER− = human epidermal growth factor receptor–negative.

preserve the integrity of the studies while enhancing patient safety during this period.

Implementation of nontraditional care delivery strategies and harnessing of modern information technology platforms, especially for patients who are receiving survivorship care, offers tremendous opportunity to minimize the negative effect of cancer care delivery on public health efforts. For instance, many hospitals and health care systems have prepared telehealth options for their patients. Nationally, the Centers for Medicare & Medicaid Services has expanded telehealth benefits for Medicare beneficiaries during the outbreak, a decision that will allow individuals to receive health care services without traveling to a health care facility. In addition, the U.S. Department of Health and Human Services will not impose penalties on physicians using telehealth in the event of nonadherence to the Health Insurance Portability and Accountability Act.

Allocation of Limited Health Care Resources

Cancer care consumes significant health care resources (9). During the COVID-19 crisis, cancer care utilization of ward and intensive care unit beds, ventilators, pharmaceuticals, blood products, staff, and basic medical supplies may directly conflict with care delivery for those with COVID-19. A new cancer diagnosis is frightening for patients and families. Although most

cancer care is not typically considered "elective," as resource constraints grow owing to supply chain issues, variations in geographic needs, and reallocation of medical infrastructure to care for infected patients, difficult tradeoffs will need to be made. Education of providers and patients can help in this setting. Similarly, many standard postacute treatment strategies that bring patients into care centers and utilize such resources as laboratory testing, imaging, and office visits can also be thoughtfully postponed to reduce burden on the health care system.

In summary, as cancer care and COVID-19 collide, patients and providers will face extremely difficult choices. The combat plan during this battle must involve patience, communication, diligence, and resolve. Risks must be balanced carefully, public health strategies implemented thoroughly, and resources utilized wisely. Furthermore, the policies and procedures developed today will serve as the basis for addressing the next outbreak or similar crisis.

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