

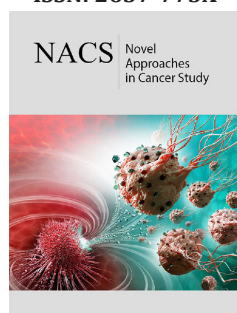
Interim Breast Cancer Care during the COVID-19 Pandemic

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Abstract

The rapid progression of the SARS CoV-2 pandemic, a respiratory disease also known as COVID-19, put forth a unique challenge for health care providers of balancing continuous cancer care with prevention of the continued spread of COVID-19 in immunosuppressed breast cancer patients. With these risks, cancer care required modifications as COVID-19 patients began to overwhelm hospitals. The American College Surgeons' (ACS) COVID Pandemic Breast Cancer Consortium collaborated to form guidelines for interim cancer care therapy, stratifying urgency of care based on severity of diagnosis. NYC Health + Hospitals/ Metropolitan (Metropolitan), a hospital located in East Harlem within the Manhattan borough of New York City, was located in the epicenter of the most severe initial outbreak of COVID-19. From March to June 2020, Metropolitan's Breast Health Center (BHC) suspended cancer services including mammography and other diagnostic testing, chemotherapy treatments, and surgical procedures. Six (6) patients with known breast malignancies were followed closely during this time. The average age of these patients was 64.5 years old (range = 43-76 years), with one case under the age of 50. Two (2) of the patients were triple negative, two were ER/PR positive and HER2 negative, one (1) patient was ER positive and PR/HER2 negative, and one (1) patient was ER/PR positive and FISH negative. In this narrative, we reflect upon Metropolitan's interim breast cancer care during March to June 2020 and suggest interventions and policies to better equip health systems to provide quality and continuous breast cancer care in future emergency circumstances.

Keywords: COVID-19; SARS CoV-2; Breast cancer; Oncology; Telemedicine

Abbreviations: SARS CoV-2: Severe Acute Respiratory Syndrome Coronavirus 2; COVID-19: Coronavirus Disease; ACS: American College of Surgeons; BHC: Breast Health Center; MSKCC: Memorial Sloan Kettering Cancer Center; PPE: Personal Protective Equipment

Introduction

The rise of SARS CoV-2, a respiratory disease known as COVID-19, presents unique care delivery challenges to cancer patients and their providers. An emerging theme is the significantly increased susceptibility of infection with COVID-19 among patients with cancer, as well as in those with hospital admission and recurrent hospital visits [1]. Early reports from China estimate that cancer patients incur a significantly increased risk of invasive ventilation, ICU admission or mortality compared to patients without cancer [2]. A New York hospital system documented 218 COVID-19 cancer patients from March 18 to April 8, 2020. Hospital system staff reported 28% of COVID-19 deaths in cancer patients, compared to 14% in the control group, suggesting a growing need for strategies to reduce exposure risk [3]. As hospitals became overburdened with COVID-19 patients, policies and procedures were created or modified and implemented swiftly (in response to local conditions or due to evolving State or County guidelines) to prevent increased exposure among these patients, ultimately interrupting routine cancer screenings and scheduled therapies.

The American College of Surgeons' (ACS) COVID-19 Pandemic Breast Cancer Consortium (Consortium) created guidelines for interim therapy. The Consortium divided patients into

priority categories based on urgency of medical need: Priority A (life threatening or urgent), Priority B (not urgent but need to start treatment), or Priority C (can be deferred until after pandemic) [4]. This is relevant to breast imaging and biopsies, surgeries, radiation, and oncologic therapy. Of note, suspension of routine breast screening is recommended, and imaging is suggested only for those with previous abnormal findings or highly suggestive symptoms. These guidelines are dynamic based on local conditions and resource availability. In contrast to countries with a national cancer system and universal healthcare, US hospitals face additional challenges due to increasing unemployment rates that lead to lower rates of insurance coverage due to 49% of the US population depending on employer-sponsored health insurance [5]. The higher rates of uninsured patients result in less patient access and revenue to hospitals. Therefore, an in-depth analysis of the response of other countries, particularly through national cancer system databases, can provide insights for the establishment of similar government hospitals for continuous cancer care in future emergency circumstances.

Discussion

NYC Health + Hospitals/Metropolitan (Metropolitan) is located in East Harlem, within the Manhattan borough of New York City where the most severe initial outbreak of COVID-19 cases occurred. More than 190,000 cases and 20,000 deaths were reported in New York City from March 1 through May 16, 2020 [6]. Several key actions were taken by Metropolitan's Breast Health Center (BHC) in regard to interim breast cancer therapy during the COVID-19 pandemic. From March to June 2020, Metropolitan suspended cancer services including mammography and other diagnostic testing, chemotherapy treatments, and surgical procedures. Patients who required interim therapy were identified and practitioners employed multidisciplinary approaches in addition to therapies to afford patients increased time between follow-up treatments.

At the onset of the March 2020 steep increase of COVID-19 cases, Metropolitan providers reached out to Memorial Sloan Kettering Cancer Center (MSKCC) to accept interim cases, however MSKCC had suspended breast health services at that time. The same standards put forth by the Pandemic Breast Cancer Consortium were followed across New York City, and given the lack of a central cancer hospital, Metropolitan providers were unable to rely on other local cancer centers. The care of six (6) patients with known breast malignancies were tracked closely during March to June 2020. The average age of these patients was 64.5 years old (range = 43-76 years), with one case under the age of 50. Two (2) of the patients were triple negative, two were ER/PR positive and HER2 negative, one (1) patient was ER positive and PR/HER2 negative, and one (1) patient was ER/PR positive and FISH negative. Under Breast Cancer Consortium guidelines, four (4) patients were categorized as priority C and two (2) as priority B. One (1) of the priority B patients was scheduled for a peripherally inserted central catheter (PICC) line, so that medical treatment could be initiated. The majority of the patients did not live in Manhattan, which could have created additional barriers to subsequent follow-

up appointments and treatments due to increasingly strict public transport restrictions enacted during the time period, as well as general reluctance by the public to take subways and buses during that time. Several breast cancer patients continue to miss follow-up clinic visits, oncology appointments, and surgical procedures. The question remains - what will be the future impact of this gap in medical and surgical management on the course of their disease? Mansfield and colleagues previously demonstrated a 60-day delay in surgical intervention of clinical stage I or stage II breast cancer had no significant adverse oncologic outcomes for patients [7]. However, surgical intervention for more advanced malignancies must be appropriately addressed in a timely manner. Several ethical dilemmas were presented in regard to planning future surgeries for these patients in the midst of a seemingly distant end to this pandemic, including planning around the possibility of a "second wave" of infection. Additionally, weighing the risks of immunosuppression from anti-cancer therapies versus the benefits of decreasing tumor burden are difficult conversations to have with patients. Personalization of care, with proper risk stratification, by providers is clearly needed. As care continues during these unprecedented times, further studies and investigations of practices are needed to adequately assess the ramifications of the COVID-19 policies in breast cancer patients. Ultimately, this will better prepare health systems for preventing delays in care during similar future occurrences.

Providers at Metropolitan were confronted with the first wave of the COVID-19 pandemic with a short time frame in which to prepare, which was exacerbated by national (and international) supply chain delays for PPE; however, we are now presented with an opportunity to revisit the physical and socioeconomic barriers to continuous cancer therapy. Telemedicine, the remote diagnosis and treatment of patients through technological communication platforms, can mitigate transportation issues, decrease clinic wait times, allow for more frequent and consistent appointments, and promote physical distancing [8]. Additionally, the use of online patient portals, an increasingly popular innovation in many health care systems, can bridge the gap in communication caused by unforeseen circumstances by connecting providers and patients directly through online messaging. Educating patients about enrollment and functionality of portals must become a priority in the modern era of medicine. Furthermore, utilization of public transportation could be a significant source of COVID-19 transmission and could deter immunocompromised patients from travelling to important follow-up visits [9]. Hospital systems can consider providing access to private transportation systems, via ride-hailing services or hospital-owned vehicles, for cancer patients in order to encourage continuity of care without increasing infection risk.

Conclusion

With limited warning about the scale and severity of the pandemic, hospitals were forced to rapidly curtail care to breast cancer patients. Many patients were unaffected by the new guidelines of follow-up, however the potential for time lost for intervention

was high. Several strategies for improving communication and follow-up, including widespread implementation of telemedicine visits, enrollment in patient portals, and private transport should be considered. While underprepared for the first stage of the COVID-19 pandemic, health care systems must now adapt and implement changes to better prevent large-scale changes in continuity of care, even during the most unprecedented times.

Acknowledgement

None

Conflicts of Interest

The authors have no conflicts of interest to disclose.

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