**CLINICAL DETERMINANTS DIFFERENTIATING SEVERITY OF CANCER PATIENTS WITH COVID-19 INFECTION: HOSPITAL CARE OR HOME RECOVERY**

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**BACKGROUND:** Cancer patients may carry a worse prognosis with Coronavirus disease 2019 (COVID-19) infection. We aimed to study the clinical factors differentiating patients requiring hospital care to those who do not, particularly therapies with negative impact to the immune system.

**METHODS:** This is a single community cancer center study in New York City between March 1 and May 30, 2020. Patients were eligible by clinical diagnosis of COVID-19 infection, while the analysis was performed on the confirmed cases. Four groups were constructed: (A) hospitalized and survived, (B) hospitalized requiring intubation and/or deceased, (C) non-hospitalized, asymptomatic, with suspicious CT image findings or close exposure, and (D) non-hospitalized and symptomatic.

**RESULTS:** Thirty patients required hospitalization and 13 died. Nine asymptomatic and 26 symptomatic patients recovered at home. There was a female predominance of 69.2%. Hospitalized patients were composed of older patients (median age 68.5 vs 58 years old), received more negative impact treatment (70% vs 34.3%), and had more patients harboring 2 or more comorbidities (80% vs 45.7%). No factors were significant to predict mortality in hospitalized patients. The median hospital stay for discharged patients was 16.5 days (range 5-60). The median duration of persistent positivity of SARS-CoV-2 RNA was 26 days (range 10-39). About 56.3% of patients who survived hospitalization and required anti-cancer treatment reinitiated therapy after recovery; all non-hospitalized patients restarted therapy and some continued treatment on schedule.

**CONCLUSIONS:** Cancer patients may have a more severe status of COVID-19 infection after receiving therapy with negative impact on the immune system. Avoidance should be considered in older patients with multiple comorbidities. About half of patients may exhibit minimal to moderate symptoms despite cancer diagnosis and treatment.

**CONTENT CATEGORY:** Translational science

**KEYWORDS:** *COVID-19, cancer, chemotherapy, immunosuppression, comorbidities*