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Spotlight on Special Topics

IN-HOSPITAL OUTCOMES AMONG COVID-19 PATIENTS WITH CANCER AND CARDIOVASCULAR DISEASE

Poster Contributions

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Session Title: Spotlight on Special Topics: COVID 1

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Authors: *David Tehrani, Asim Rafique, Xiaoyan Wang, Pooja Desai, Alicia Morgans, Joerg Herrmann, Juan Lopez-Mattei, Tomas Neilan, Salim Hayek, Rushi Parikh, Eric Yang, University of California Los Angeles, Los Angeles, CA, USA*

Background: While pre-existing cardiovascular disease (CVD) appears to be associated with poor outcomes in patients with Coronavirus Disease 2019 (COVID-19), data on patients with CVD and concomitant cancer is limited. We hypothesized that patients with CVD and cancer would have increased rates of in-hospital death and severe complications.

Methods: Data from symptomatic adult patients hospitalized with COVID-19 at 86 US hospitals enrolled in the American Heart Association's COVID-19 CVD Registry collected through August 20, 2020 was analyzed. The primary exposure was history of cancer. The primary outcome was in-hospital death; secondary outcomes were major adverse cardiovascular events (MACE) and severe complications (composite of ICU admission, mechanical ventilation, shock, or mechanical circulatory support). Separate multivariate logistic regression models were fit for each outcome and adjusted for demographics, CVD risk factors, CVD, and recent use of chemotherapy/biologics.

Results: Among 7333 patients, 892 (12.2%) had a history of cancer, and in-hospital death occurred in 1272 (17.3%), MACE in 416 (5.7%), and severe complications in 2218 (30.2%). In multivariate analyses, history of cancer (OR 1.32, CI: 1.00-1.75; $p=0.05$) and recent use of chemotherapy/biologics (OR 1.76, CI: 1.14-2.69; $p=0.01$) were associated with higher risk of in-hospital death; history of CVD demonstrated a numerical trend toward increased mortality (OR 1.19, CI: 1.00-1.42; $p=0.06$). In multivariate analysis, history of CVD was associated with MACE (OR 1.32, CI: 1.05-1.66, $p=0.02$), while history of cancer and chemotherapy/biologics were not associated with the secondary outcomes. Interaction terms were not significant except for cancer with age ($p < 0.01$). Among the cancer subgroup, use of chemotherapy/biologics (OR 1.67, CI: 1.02-2.74; $p=0.04$) was associated with in-hospital death, though CVD risk factors and history of CVD were not.

Conclusion: Among symptomatic hospitalized COVID-19 patients, history of cancer and recent use of chemotherapy/biologics were independent predictors of in-hospital mortality. Notably, underlying CVD was not associated with worse outcomes among cancer patients.