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Breast cancer (BC) and severe COVID-19 (C-19) outcomes: A matched analysisM. Chavez Mac Gregor¹, X. Lei², H. Zhao¹, C. Malinowski¹, S.H. Giordano¹¹ Health Services Research, The University of Texas M. D. Anderson Cancer Center, Houston, TX, USA² Center for Research and Analytics, American Society of Clinical Oncology (ASCO), Alexandria, VA, USA**Background**

Patients with cancer, particularly those receiving anticancer treatment, have a higher risk of severe (C-19) outcomes. We examine the association between BC, recent treatment, and adverse C-19 outcomes.

Methods

Retrospective matched cohort study using the Optum® de-identified COVID-19 Electronic Health Record dataset. Patients diagnosed with C-19 (01/01/2020-12/20/2021) were categorized into 3 groups: No cancer; patients with BC and recent anticancer treatment (surgery, radiation, chemotherapy, immunotherapy, endocrine therapy within 3 months); and BC without recent treatment. Groups were matched based on age, date of C-19 diagnosis, and comorbidity score. We evaluated 30-day mortality, mechanical ventilation, intensive care unit (ICU) stay, and hospitalization. A composite ordinal outcome including all outcomes was analyzed. Multivariable logistic regression models were used. Results are presented as odds ratios (OR 95%CI).

Results

2200 matched triplets (1:1:10) of BC treated, BC not treated, and non-cancer patients were included (median age 65 years). The rates of most adverse outcomes improved in 2021 compared to 2020 (mortality 0.2% vs 2.9%, mechanical ventilation 0.1% vs 3%; ICU stay 0.2 vs 4.5%, hospitalization 22.4% vs 23.6%). Compared to non-cancer patients, those with BC recently treated had a similar risk of adverse outcomes, while patients with BC not recently treated had a lower risk of ICU stay and hospitalization and a similar risk of mortality and mechanical ventilation. Using the composite ordinal variable, BC recently treated had similar outcomes (OR 1.02; 95%CI 0.93-1.11) to non-cancer patients, and BC patients not recently treated had better outcomes (OR 0.66; 95%CI 0.59-0.74). Chemotherapy within 3 months was associated with a higher risk of ICU (OR 1.81; 95%CI 1.02-3.23) and hospitalization (OR 2.3; 95% 1.76-2.99). Vaccination prior to C-19 was reported in 3.6, 5.8, and 5.5% of non-cancer, BC treated, and BC not treated patients; vaccination was associated with improved outcomes.

Conclusions

Patients with BC have a similar risk of adverse C-19 compared to non-cancer patients. Subgroup analysis suggests that patients recently receiving chemotherapy had a higher risk of ICU stay and hospitalization.

Legal entity responsible for the study

The authors.

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Disclosure

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