Cancer therapy delivery in women with HIV and breast cancer, a single institution case-control study.

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BACKGROUND

Women living with HIV (WLWH) and breast cancer (BC) have worse survival compared to HIV- women with BC. We conducted a case-control study to assess differences in BC therapy delivery by HIV status.

METHODS

We used the electronic health record to identify women ≥18 years old with HIV and BC diagnosed in 2000-2018 and treated within the University of Pennsylvania Health System. Each case was randomly matched to two controls by stage and diagnosis year using R library MatchIT. Demographic, clinical, and treatment data were extracted. Relative dose intensity (RDI) was computed for stage I-III BC patients. RDI<0.85 has been associated with worse survival. Statistical analysis was performed using non-parametric methods.

RESULTS

Eighteen WLWH and 56 controls were analyzed. WLWH were younger at BC diagnosis than HIV- controls (median 50 vs 56 years, p= 0.25) and significantly more likely to be Black (72% vs 25%, p < 0.01). Analysis of non-metastatic patients (n = 48) revealed a trend towards longer time to treatment initiation in WLWH compared to controls (41 days (IQR 28-57) vs 38 days (IQR 20-56), respectively, p= 0.38). There were no differences in surgical, radiation, or endocrine therapy utilization. Chemotherapy RDI was similar between the 11 WLWH (median 1, IQR 0.95-1) and 10 HIV- controls (median 0.97, IQR 0.93-1) who received chemotherapy. 18% vs 10% of WLWH and HIV- controls had RDI < 0.85. WLWH also had greater rates of CTCAE Grade ≥ 3 neutropenia compared to HIV- controls (23% vs 0%, respectively).

CONCLUSION

WLWH treated for BC were more likely to be Black and experienced trends towards greater treatment delays, inferior RDI and neutropenia severity, compared to HIV- controls. The small sample size limits inferential analysis and these observations merit further assessment in larger studies as mediators of worse survival in WLWH and breast cancer.