# Long-term cardiomyopathy risk varies by chemo agent

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(HealthDay)—Long-term cardiomyopathy risk varies by chemotherapy agent for childhood cancer survivors, with a decreased risk for daunorubicin versus doxorubicin, according to a study recently published in *JAMA Oncology*.

Elizabeth A.M. Feijen, Ph.D., from Emma Children's Hospital in Amsterdam, and colleagues conducted a multicenter cohort study of childhood cancer survivors who survived five or more years. Pooled data were analyzed from 20,367 participants in the Childhood Cancer Survivor Study, 5,741 in the Dutch Childhood Oncology Group LATER Study, and 2,315 in the St. Jude Lifetime study. Of the 28,423 survivors, 9,330 received doxorubicin, 4,433 received daunorubicin, 342 received epirubicin, 241 received idarubicin, and 265 received mitoxantrone.

The researchers observed 399 cardiomyopathy cases after a median follow-up of 20 years after receipt of a cancer diagnosis. The equivalence ratios were 0.6, 0.8, and 10.5 for daunorubicin, epirubicin, and mitoxantrone relative to doxorubicin. Idarubicin-specific estimates could not be generated, as outcomes were too rare. For daunorubicin and epirubicin, ratios based on a continuous linear dose-response relationship were similar (0.5 and 0.8, respectively). A linear exponential model better characterized the relationship between mitoxantrone and doxorubicin.

"The cardiotoxicity equivalence ratios determined in the present study for the most commonly used cancer treatment agents may influence the choice of agents when designing new protocols," the authors write.

**More information:** Abstract/Full Text (subscription or payment may be required)