

Lymphoma patients with cardiovascular disease have increased risk of cardiac hospitalization

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Older patients with Hodgkin lymphoma (HL) and a history of heart disease face a high risk of hospitalization for cardiac complications after completing treatment, according to research published online today in *Blood*, the journal of the American Society of Hematology. HL is a form of cancer of arising in the lymph nodes, and approximately 8,500 people were diagnosed with the disease in 2009, according to the American Cancer Society. Treatment for HL typically includes the drug doxorubicin as part of chemotherapy and may also include radiation therapy to lymph nodes in the chest. Although treatment produces high cure rates, these treatments can also be toxic to the heart. This makes treating patients with pre-existing heart disease particularly challenging.

To evaluate the toxicity of HL treatment, researchers collected data on hospitalizations for heart disease among 1,096 HL patients who had received common treatment regimens, including doxorubicin-containing chemotherapy and [radiation therapy](#) to lymph nodes in the chest.

The study found that the toxicity of different treatments varied significantly depending on whether patients had pre-existing heart disease. In particular, radiation therapy to the chest appeared to increase the risk of cardiac hospitalization to a much greater degree among those with pre-existing heart disease than among those without. Also, patients with [heart disease](#) whose treatment included radiation therapy to the chest were found to be approximately 2.5 times more likely to be

hospitalized for cardiac reasons than those who were treated with chemotherapy alone.

"Efforts to reduce cardiac exposure to radiation in patients with pre-existing cardiac disease are warranted based on these findings," said David Hodgson, MD, David Hodgson, radiation oncologist at the Princess Margaret Hospital Cancer Program, University Health Network, investigator at the Institute of Clinical Evaluative Sciences, Ontario, Canada, and senior author of the study. "However, the lower cardiac complication rate among patients treated only with chemotherapy occurred in part because they were more likely to die of other causes, so it is not a simple message that [chemotherapy](#) alone is better for all patients. Clinical trials are ongoing to more accurately identify which patients benefit from radiation therapy and to further reduce the administered dose to normal tissues," Hodgson said. "But oncologists need to be aware of their patients' heart health and vigilant about post-treatment monitoring and active intervention to reduce their patients' cardiac risk factors."

Possible explanations for this relationship have been cited in animal studies that have shown that when an artery is exposed to radiation, inflammation appears in the arterial wall and can lead to the rupture of fatty deposits, which is a common cause of heart attacks in humans. This may, in part, explain the increased risk of heart problems following radiation therapy to the chest in patients who likely have such fatty deposits in their coronary arteries.

Provided by American Society of Hematology

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