

Higher radiation dose does not help lung cancer patients live longer

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A higher dose of radiation (74 Gy) does not improve overall survival for non-small cell lung cancer that has spread to the lymph nodes, compared to the standard radiation dose (60 Gy), according to an interim analysis of a late-breaking randomized study presented at the plenary session, October 3, 2011, at the 53rd Annual Meeting of the American Society for Radiation Oncology (ASTRO).

"Most [radiation oncologists](#) and lung cancer specialists are surprised by this finding. Although the optimal radiation dose for [lung cancer patients](#) has not been tested in a randomized phase III trial for over 30 years, most believed that higher doses of radiation cured more patients with lung cancer," Jeffrey Bradley, MD, a radiation oncologist at the Washington University School of Medicine in St. Louis, said.

The goal of the phase III trial was to find out if high doses of radiation improve survival and also if the chemotherapy drug, Cetuximab, increases survival among stage III non-small cell lung cancer patients. Investigators randomized 423 patients to different doses of radiation therapy and concurrent chemotherapy of paclitaxel and carboplatin with or without Cetuximab. Patients received one of four treatment arms: standard-dose (60 Gy) versus high-dose (74 Gy) radiation therapy and to chemotherapy with or without Cetuximab.

Two types of [external beam radiation](#) therapy were used during the trial: three-dimensional conformal radiation therapy (3D-CRT), that uses special imaging techniques to precisely tailor the radiation beams so that

nearby normal tissue receives less radiation; and [intensity modulated radiation therapy](#), (IMRT), a newer, specialized form of 3D-CRT which further limits the radiation dose to the normal tissues.

Based on the study's early findings, patients who received the higher dose of radiation (74 Gy) did not have better survival rates than those receiving the standard dose (60 Gy); therefore, the two arms of the trial which used high-dose radiation therapy were closed to patient accrual.

"The trial provides class I evidence that the standard dose of radiation therapy for stage III lung cancer should remain at its existing level of (60 Gy) and doses as high as 74 Gy are not better in curing Stage III lung cancer," Dr. Bradley said. "We are not sure why this is the case and our data is still being carefully reviewed."

Provided by American Society for Radiation Oncology

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