

Meta-analysis: Radiotherapy variants improve survival in non-metastatic lung cancer

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A new meta-analysis reported at the second European Lung Cancer Conference shows that patients with both non-small-cell lung cancer and small-cell lung cancer benefit in terms of overall survival when treated with hyperfractionated or accelerated radiotherapy.

Patients treated with hyperfractionated or accelerated [radiotherapy](#) regimens are given their treatments more frequently, and over a shorter period of time. The benefit of doing this has been in question as different randomized trials have given contradictory results.

Dr Cecile Le Pechoux and colleagues from Institut Gustave Roussy in Villejuif, France analyzed 10 trials including 2,279 patients with non-metastatic lung cancer. They found that in the eight trials dealing with non-small-cell lung cancer, modified fractionation of the radiotherapy improved overall survival compared to conventional radiotherapy, resulting in an absolute benefit of 3% after 5 years, meaning that 3% more of the patients were alive after 5 years in the modified fractionation groups.

"The clinical benefit we found was small, but comparable to the benefit found in other meta-analyses concerning non-small-cell lung cancer," Dr Le Pechoux said.

Lung cancer remains a major cause of death worldwide with more than

1.1 million deaths per year. Non-small-cell lung cancer (NSCLC) represents more than 80% of all lung tumors and small-cell lung cancer (SCLC) less than 20%. Approximately 35% of patients with NSCLC, and less than a third of SCLC patients, present with locally advanced, non-metastatic disease. The standard treatment for these patients is combined radio-chemotherapy.

In small-cell lung cancer, which is a less common form of the disease, similar results were found, although the difference in survival between the standard and modified radiotherapy regimens was not statistically significant because of lack of power.

These results could encourage further work to determine how best to deliver radiotherapy for lung cancer patients, Dr Le Pechoux said. "Interest in modified fractionation was uncertain before the meta-analysis, but the current results will lead to renewed interest in this research field."

"In the most recent meta-analysis evaluating the best way to combine radiotherapy and chemotherapy in NSCLC, the results showed that concomitant chemo-radiation (5-year survival rate of 15.1%) is superior to sequential chemo-radiation (5-year survival rate of 10.6%) and the best results shown in randomized trials in small-cell [lung cancer](#) limited disease show 5-year survival rates of 20-25%. Thus there is need for improvements of both radiotherapy and chemotherapy," Dr Le Pechoux said.

Provided by European Society for Medical Oncology

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