

Chemotherapy may be better for certain patients with advanced lung cancer

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Among patients with advanced non-small cell lung cancer without a mutation of a certain gene (EGFR), conventional chemotherapy, compared with treatment using epidermal growth factor receptor tyrosine kinase inhibitors, was associated with improvement in survival without progression of the cancer, but not with overall survival, according to a study in the April 9 issue of *JAMA*.

Epidermal growth factor receptor (EGFR) [tyrosine kinase inhibitors](#) (TKIs) are the preferred [treatment](#) option for [patients](#) with advanced non-small cell lung cancer (NSCLC) who have [mutations](#) in the EGFR gene. These drug-sensitive mutations are found in about 10 percent of Western patients and almost 50 percent of Asian patients with NSCLC. However, a majority of patients with advanced NSCLC worldwide do not have tumors with these mutations (known as wild-type [WT]; no mutation detected within the gene). Studies have shown that TKI treatment is better than conventional chemotherapy in terms of progression-free survival (PFS) among patients with these EGFR mutations; it is not clear that EGFR TKIs are as effective as standard chemotherapy in patients without EGFR mutations, according to background information in the article

June-Koo Lee, M.D., of Seoul National University Hospital, Seoul, Republic of Korea, and colleagues performed a meta-analysis of randomized controlled trials that compared first-generation EGFR TKI (erlotinib and gefitinib) treatment with conventional chemotherapy in patients with advanced NSCLC without mutation of the EGFR gene.

The authors identified 11 randomized controlled trials, with 1,605 patients with WT EGFR, which met criteria for inclusion in the meta-analysis.

The results indicated that chemotherapy was associated with longer PFS compared with EGFR TKI in patients with WT tumors. For a median (midpoint) PFS of 6.4 months in patients treated with standard chemotherapy, the corresponding reduction of PFS in patient receiving EGFR TKI would be 1.9 months.

The objective response rate (defined as the proportion of complete response and partial responses among all evaluable patients) was also higher with chemotherapy (92/549, 16.8 percent) compared with TKI (39/540, 7.2 percent). However, the overall survival did not differ between the two groups.

"... this study suggests that, in patients with WT EGFR tumors, conventional chemotherapy could be a preferable treatment option over EGFR TKI, although this recommendation cannot be conclusive because the overall comparisons were not based on randomization. Furthermore, the toxicity outcome was not assessed," the authors write.

More information: [DOI: 10.1001/jama.2014.3314](https://doi.org/10.1001/jama.2014.3314)

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