Adding tivantinib to standard erlotinib treatment improved outcomes for specific subgroup of patients with lung cancer

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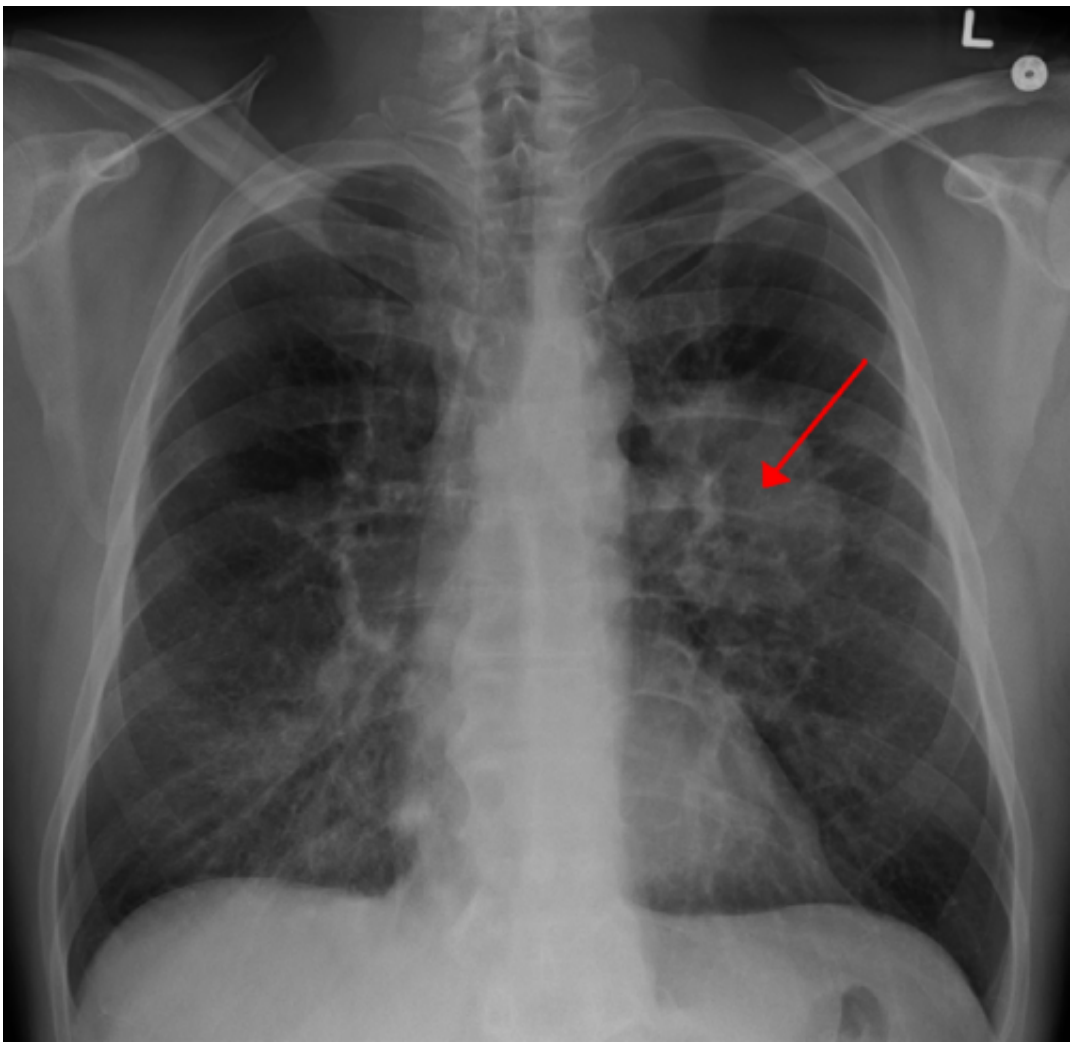

Lung CA seen on CXR. Credit: CC BY-SA 4.0 James Heilman, MD/Wikipedia

Adding the investigational anticancer therapeutic tivantinib to standard erlotinib treatment substantially increased progression-free survival for patients with advanced nonsquamous non–small cell lung cancer (NSCLC) who had tumors positive for epidermal growth factor receptor (EGFR) gene mutations, according to a subset analysis of data from the phase III MARQUEE clinical trial presented at the AACR-NCI-EORTC International Conference on Molecular Targets and Cancer Therapeutics, held Nov. 5–9.

"EGFR inhibitors like erlotinib are effective treatments for patients with advanced NSCLC with and without EGFR mutations," said Wallace Akerley, MD, director of thoracic oncology at the Huntsman Cancer Institute at the University of Utah in Salt Lake City. "However, tumors invariably develop resistance. MET overexpression is associated with resistance to EGFR therapy, and the phase III MARQUEE clinical trial set out to investigate whether adding the MET inhibitor tivantinib to erlotinib treatment could improve patient outcomes."

Previously published results for all 1,048 patients enrolled in the clinical trial showed that the combination of tivantinib and erlotinib was well tolerated and improved progression-free survival but not overall survival.

"We are now reporting a preplanned analysis of the outcomes for the subset of patients enrolled in MARQUEE who had tumors positive for EGFR mutations, the mutations most commonly associated with lung cancer in never smokers," said Akerley. "We were excited to see that the addition of tivantinib to the standard-of-care EGFR inhibitor erlotinib improved progression-free survival and tended to improve overall survival and response rate for these patients. There were few side effects and both agents were oral, so patients had improved outcome without additional side effects or inconvenience.

"Given the small number of patients in this subset analysis, we were

pleasantly surprised by the magnitude of the difference in response rate, progression-free survival, and overall survival, as well as the finding of statistical significance in progression-free survival," added Akerley.

Among the 1,048 patients with advanced nonsquamous NSCLC that had progressed after one or more prior treatments enrolled in the phase III MARQUEE clinical trial were 109 who had tumors positive for EGFR gene mutations. At randomization, 56 of these patients were assigned to the combination of tivantinib and erlotinib and 53 to erlotinib and placebo.

Adding tivantinib to erlotinib significantly increased the median progression-free survival, from 7.5 months among those patients assigned erlotinib and placebo to 13.0 months among those assigned the investigational combination. Although not statistically significant, the overall response rate and median overall survival were also increased, from 43 percent to 61 percent and from 20.0 months to 25.5 months, respectively. According to Akerley, greater numbers of patients give a greater chance to show small differences, so this subset analysis was capable of showing only major differences in outcome.

At data cutoff, six patients of the 56 assigned tivantinib and erlotinib were still on therapy, with the duration of treatment ranging from 16 to 25 months.

Akerley explained that the major limitation of the current study is that because this was a preplanned analysis of only a subset of patients enrolled in the phase III clinical trial, it does not have sufficient numbers of patients to absolutely prove benefit of the combination. However, he added that these data are striking and provide firm evidence to support a confirmatory study.