Economic analysis: Erlotinib marginally cost-effective

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Weighing both magnitude of survival benefit and expense, researchers found that the drug erlotinib, which was found to improve overall survival by 2 months in patients with advanced non-small cell lung cancer, is marginally cost-effective. The results of their economic analysis using clinical trial data were reported in a new study published online February 16 in the *Journal of the National Cancer Institute*.

Natasha B. Leighl, M.D., of the University Health Network in Toronto, Canada, and colleagues performed an analysis of erlotinib treatment in the NCIC Clinical Trials Group BR.21 trial to determine the cost-effectiveness of treating various populations with the drug, a tyrosine kinase inhibitor. The researchers also calculated the incremental cost-effectiveness ratio.

The incremental cost-effectiveness ratio for erlotinib treatment in the trial population was $94,638 (2007 Canadian dollar) per life-year gained (95% confidence interval = $52,359 to $429,148).

According to the researchers, this figure exceeds the threshold historically accepted as cost-effective ($50,000 per quality-adjusted life year). The ratio was in the higher range of cost-effectiveness ratios that high-resource countries may consider acceptable. Thus, it may be possible to enhance the cost-effectiveness of this treatment through the clinical and molecular selection of patients for treatment, the authors report.

Subgroup analyses revealed that erlotinib may be more cost-effective in never-smokers or patients with high EGFR gene copy number.

"Ongoing efforts to identify which patients are most likely to benefit from treatment and to make targeted cancer therapies more affordable will serve to make this important treatment option available for lung cancer patients worldwide," the authors write.

In an accompanying editorial, Scott D. Ramsey, M.D., Ph.D., of Fred Hutchinson Cancer Research Center, in Seattle, said the study provided new information to help address some of the questions surrounding the drug's use. Although the study's findings are unlikely to sway any policies, it does provide information on the potential economic impact of biomarker-guided treatment with erlotinib.

"The unwillingness of public and private health systems and providers in the United States to consider costs relative to benefits in decisions about access to these products presents a clear signal to drug manufacturers," he writes. "It also presents the rest of the world with a need for information that identifies patients for whom the amount of benefit of therapies such as erlotinib can support a valid argument for their use."

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