Cost-effectiveness of cetuximab in metastatic colorectal cancer

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From a health-care system perspective, it may be more efficient to use the drug cetuximab only in colorectal cancer patients whose tumors have a wild-type KRAS gene, according to a study published online August 7 in the *Journal of the National Cancer Institute*.

Earlier, patients whose tumors harbored wild-type KRAS were found to have a higher survival advantage when treated with cetuximab in a randomized trial by the National Cancer Institute of Canada Clinical Trials Group.

In this study, Nicole Mittmann, of the HOPE Research Centre Sunnybrook Health Sciences Centre, in Toronto, and colleagues used prospectively collected resource utilization and health utility data from that trial to conduct a cost-effectiveness analysis to determine the costs per life-year gained and costs per quality-adjusted life-year gained.

Mean survival times for the study arms were calculated over an 18- to 19-month period for all patients in the study and for patients whose tumors had wild-type KRAS.

For all patients, cetuximab showed very high (i.e., unfavorable) incremental cost-effectiveness ratios—meaning it was very costly in relation to benefits—compared with best supportive care. The incremental cost-effectiveness ratios were, however, more favorable for patients whose tumors harbored wild-type KRAS.

"Consequently…it would not be efficient to fund cetuximab treatment for all patients with advanced colorectal cancer," the authors write. "Use of cetuximab may be restricted based on a patient's tumor KRAS status."

In an accompanying editorial, Robin Yabroff, Ph.D., of the Division of Cancer Control and Population Science, National Cancer Institute in Bethesda, Md., and Deborah Schrag, M.D., of the Dana Farber Cancer Institute in Boston, note that these findings help raise important questions about how cost-effectiveness analyses inform coverage decisions.

Ideally, personalization of cancer therapy could save money by avoiding treatment for patients with KRAS mutations who do not respond to cetuximab, according to the editorialists. However, this study shows that even when restricted to metastatic colorectal cancer patients with wild-type KRAS tumors, the cost-per quality adjusted life year gained for cetuximab therapy compared to best supportive care exceeds commonly accepted thresholds of $50,000 to $100,000 per quality adjusted life year that signify "good value" health care interventions.

Given current attention to healthcare costs in the U.S., interest in explicitly comparing the costs and benefits of treatment, as performed by Mittmann et al. in Canada, is likely to increase. "The sustainability of the current approach to decision-making about coverage is unclear, particularly in light of escalating health care costs," the editorialists write.

Source: Journal of the National Cancer Institute (news : web)