MedicalXpress

Study reports first success of targeted therapy in type of non-small cell lung cancer

May 31 2012

A novel compound has become the first targeted therapy to benefit patients with the most common genetic subtype of lung cancer, an international clinical trial led by scientists at Dana-Farber Cancer Institute and other institutions will report at the annual meeting of the American Society of Clinical Oncology (ASCO) June 1-5 in Chicago.

Pasi A. Jänne, MD, PhD, scientific co-director of Dana-Farber's Belfer Institute for Applied Cancer Science, will present the findings from the randomized phase II study (abstract 7503) on Monday, June 4, 3 p.m. CT, E Hall D2, McCormick Place.

The study involved 87 non-small cell lung cancer (NSCLC) patients whose tumors carry a mutation in the gene KRAS. Such tumors account for about 20 percent of NSCLC cases, but no targeted therapy has proved effective against them in previous clinical research. The drug under investigation, selumetinib, doesn't attack KRAS directly, but interferes with one of its molecular henchmen, a protein called MEK.

Participants in the study all had advanced stages of the disease. They received the standard chemotherapy agent docetaxel in combination with either selumetinib or a placebo.

By many measures – the rate and duration of response to treatment, change in tumor size, and proportion of patients alive and showing no signs of advancing disease -- the group receiving selumetinib did significantly better than the other group. Most clinically significant were

the improved rate of response to treatment (37 percent compared to 0 percent in the placebo arm) and prolonged progression-free survival (5.3 months compared to 2.1 months in the placebo arm). Although patients in the selumetinib group survived longer, on average, than those in the placebo group – 9.4 months compared to 5.2 months – the improvement was not considered statistically significant.

"This clinical trial demonstrates that a combination of chemotherapy and selumetinib is significantly better than chemotherapy alone for this group of patients – better in terms of tumor response to therapy and in terms of survival times prior to advance of the disease," says Jänne. "It suggests that for the first time we may have an effective treatment for KRAS-mutant lung cancer, which is the largest single subtype of the disease. These impressive clinical findings not only have implications for the treatment of lung cancer but all cancers that harbor KRAS mutations, including pancreatic and colorectal cancer."

Some side effects, such as neutropenia (a white blood cell deficiency), loss of strength, acne, and respiratory problems were more common in the selumetinib group than the other, but the rate of patients dropping out of the study because of severe side effects was similar for both groups.

Provided by Dana-Farber Cancer Institute