Advances in lung cancer research announced at conference

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Dr. Glen Weiss of the Translational Genomics Research Institute (TGen) and Scottsdale Healthcare this week announced two significant advances in treating lung cancer at an international cancer research conference.

Dr. Weiss, M.D., an Associate Investigator in TGen's Cancer and Cell Biology Division and Director of Thoracic Oncology at TGen Clinical Research Services at Scottsdale Healthcare, made both announcements at the 13th World Conference on Lung Cancer in San Francisco.

In one presentation, Dr. Weiss described research that eventually could help prevent lung cancer from spreading to the brain. In non-small cell lung cancer (NSCLC), brain metastasis is a devastating complication that occurs in as many as 1 in 4 patients. The ability to identify those at risk for developing brain metastasis may guide new therapies.

A team led by Dr. Weiss found several microRNAs, which are single-stranded RNA molecules that regulate how genes control cellular development - as well as several high-tech imaging characteristics - all associated with the spread of lung cancer to the brain.

The biological significance of these microRNAs are being explored, and more studies are warranted, according to the team, which was funded by the Ibis Foundation of Arizona, the TGen Foundation and the Scottsdale Healthcare Foundation.

"With additional validation, this work can lead to better techniques to

predict, treat and ultimately prevent brain metastasis in patients with non-small cell lung cancer," Dr. Weiss said. "Identifying the highest-risk population for brain metastasis, so that informed therapeutic trials can be undertaken, could enable a paradigmatic shift in treating these patients."

The study team included researchers from: TGen; the Virginia G. Piper Cancer Center at Scottsdale Healthcare's Scottsdale Clinical Research Institute; Scottsdale Medical Imaging LTD; and the School of Computing, Informatics and Decision Systems Engineering at Arizona State University's Ira A. Fulton School of Engineering.

In another presentation, Dr. Weiss discussed the release this week by Threshold Pharmaceuticals Inc. and the Virginia G. Piper Cancer Center at Scottsdale Healthcare of results from two Phase I clinical trials for a drug called TH-302.

The two clinical trials are both evaluating the safety and effectiveness of TH-302, a drug activated in the absence of oxygen. Both clinical trials involve patients with advanced solid tumors. In one, they are treated with TH-302 in combination with other chemotherapy agents. In the other, they are treated only with TH-302, which is produced by Threshold Pharmaceuticals of Redwood City, Calif.

In the study of those treated only with TH-302, six of eight, or 75 percent, of patients with small cell lung cancer (SCLC) "achieved stable disease or better." In the study of those treated with TH-302 in combination with other chemotherapy agents, eight of 12, or 67 percent, of patients with NSCLC "achieved stable disease or better," according to a release by Threshold and Scottsdale Healthcare. More details about the trials are available at www.shc.org/content.asp?lnavid=39.

"TH-302 is a new, novel, small molecule that is activated when cells are under conditions that lack oxygen, which is a metabolic condition

characteristic of cancer cells," Dr. Weiss said. "We are excited to continue investigations with TH-302 and about the potential benefit that it might confer to people living with lung cancer."

Source: The Translational Genomics Research Institute