

Genetic testing beneficial in melanoma treatment

4 April 2014, by Allison Hydzik

(Medical Xpress)—Genetic screening of cancer can help doctors customize treatments so that patients with melanoma have the best chance of beating it, according to the results of a clinical trial by researchers at the University of Pittsburgh Cancer Institute (UPCI), a partner with UPMC CancerCenter.

The trial, funded by the National Institutes of Health (NIH), will be presented Monday at the American Association for Cancer Research (AACR) Annual Meeting 2014. It showed that the [cancer](#) immune therapy drug ipilimumab appears most likely to prevent recurrence in patients whose cancer shows high expression of immune-related genes.

"We've reached a point in the treatment of melanoma—and cancer in general—where we're making major improvements in the outcomes of patients through personalized medicine," said lead investigator Ahmad Tarhini, M.D., Ph.D., associate professor of medicine and translational science in Pitt's Department of Medicine and Clinical and Translational Science Institute. "Anti-cancer therapy can be associated with significant side effects and economic costs. Therefore, we have a major interest in the development of tests that may allow us to predict which treatment regimen is most likely to help certain patients, while sparing others the unwanted side effects and cost of medications that are unlikely to work."

Before and after ipilimumab treatment, Dr. Tarhini and his colleagues obtained tumor biopsies used to run genetic tests on the tumors of 32 patients with advanced, stage 3 melanoma who were treated by UPMC. All patients were given standard-of-care surgery, which included complete surgical removal of an advanced tumor.

Patients with tumors that had higher levels of expression of a group of immune-related genes, either before or soon after treatment with

ipilimumab, had 63 percent lower risk of [cancer recurrence](#) after surgery.

"By validating these findings in a large national trial that also will allow us to investigate other significant biomarker data, we'll seek to develop 'biomarker signatures' that doctors can use to customize [melanoma](#) treatment plans. The ultimate goals of therapy are to best treat the cancer in an individualized approach, while avoiding the unnecessary exposure of [patients](#) to severe [side effects](#)," said Dr. Tarhini.

Provided by University of Pittsburgh Medical Center

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