A discovery that may lessen a health disparity

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Mayo Clinic Cancer Center scientists, in collaboration with Chinese researchers, have isolated an enzyme that could be used to predict survival and recurrence rates for nasopharyngeal cancer -- a common cancer affecting people from Southeast Asia. Results of the study were presented today by lead author Jin-Ping Lai, M.D., Ph.D., at the American Association for Cancer Research annual meeting.

Nasopharyngeal cancer disproportionately affects people living in southern China and surrounding areas, as well as recent Southeast Asian immigrants to the United States, says the American Cancer Society. It also is common in Alaska Natives and is 50 percent more likely to occur in blacks than in whites.

SULF2, a recently identified heparin-degrading endosulfatase, appears to be significantly overexpressed in nasopharyngeal cancers, providing hope of the eventual ability to predict recurrence and subsequent prognosis after radiation therapy, the standard treatment for nasopharyngeal cancer.

The researchers examined tumor tissue from 55 patients with squamous cell carcinoma of the nasopharynx, otherwise known as nasopharyngeal cancer. All patients had been treated by radiation therapy and follow-up was conducted for 10 years. The investigators found that rates of early recurrence (within five years) were significantly higher for individuals with high levels of SULF2 in the tumor (expressed in more than 10 percent of cancer cells). These same individuals were much more likely to die within 10 years.

“Learning more about the way a specific type of cancer develops, and what proteins it produces as it grows, helps us find better ways to treat that cancer,” said Dr. Lai, who is a cancer researcher at Mayo Clinic with background as an otolaryngologist. “With nasopharyngeal cancer, we think this new enzyme may help solve the puzzle.”

Locating the enzyme also allowed Dr. Lai and his colleagues to make the antibody for SULF2, which is a step leading to an effective treatment for nasopharyngeal cancer. SULF2 also appears to be a factor in liver cancer, a link under investigation by the Mayo researchers.

“We continue to look for ways to combat health disparities in the United States and throughout the world,” said Lewis Roberts, M.B.Ch.B., Ph.D., the study’s principal investigator and a gastroenterologist at Mayo Clinic. “Our research into SULF2 suggests a number of promising possibilities for the development of more effective treatments for cancer.”

Source: Mayo Clinic