

Researchers link genetic marker to rectal cancer treatment

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A team of researchers led by Keck School of Medicine of the University of Southern California (USC) oncologist Heinz-Josef Lenz, M.D., has identified a genetic marker that may predict which patients with rectal cancer can be cured by certain chemotherapies when combined with surgery. The discovery, scheduled for publication in the August 1 edition of *Clinical Cancer Research*, brings doctors closer to customizing cancer treatment to individual patients.

Lenz, professor of medicine and preventive medicine in the division of [medical oncology](#) at the Keck School and the study's principal investigator, analyzed the DNA of European patients with locally advanced rectal cancer who were treated with [cetuximab](#) (marketed as Erbitux) prior to surgery.

"Cetuximab is usually used for metastatic [colon cancer](#), for which it is effective. We're asking if it could be effective for locally advanced rectal cancer," said Lenz, associate director of the Gastrointestinal Oncology Program at the USC Norris Comprehensive Cancer Center and Hospital.

Colorectal cancer is the third most commonly diagnosed cancer and the third leading cause of [cancer death](#) among men and women in the United States, according to the American Cancer Society. The disease develops in the colon or rectum and, if detected in its early stages, usually can be completely removed by surgery. When it is locally advanced, however, the tumor cannot be easily removed and doctors prescribe chemotherapy

and radiation to make it more manageable before attempting surgical removal.

The retrospective analysis, first published online on June 14, found that 45 percent of patients with a particular genetic combination (EGF 61 G/G) emerged disease-free when treated with cetuximab before surgery, compared to 21 percent and 2 percent of patient groups who did not have the same genotype. This is the first study to suggest that the genetic variation - detectable by blood test - can be used to predict whether a patient with locally advanced rectal cancer will respond to cetuximab before surgery.

Cetuximab is a drug that is typically used to treat head and neck cancer and [colorectal cancer](#) that has spread to other parts of the body. It blocks epidermal growth factor receptors (EGFR) from binding with epidermal growth factor (EGF) proteins found in the body, which have been linked to increased risk for cancer. For tumors that are difficult to cut out but have not yet spread to other parts of the body, the standard treatment is a combination of capecitabine (Xeloda), fluorouracil (5-FU) and radiation. The patients in the study received intravenous doses of cetuximab in addition to standard care.

Provided by University of Southern California

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