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Beyond KRAS: Testing Tumors for Other Genetic Mutations Helps Personalize Treatment for Metastatic Colorectal Cancer [1]

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A large study shows that testing for specific genetic changes in tumor cells can tell doctors whether people with metastatic colorectal cancer (colorectal cancer that has spread to other parts of the body) are likely to benefit from combining second-line chemotherapy with a targeted therapy called panitumumab (Vectibix). A second-line treatment is given if the first treatment does not work, starts but then stops working, or causes serious side effects.

Panitumumab is a drug that blocks a protein called the epidermal growth factor receptor (EGFR), helping stop or slow the growth of colorectal cancer. Previous research has shown that drugs like panitumumab do not work as well for tumors that have specific mutations (changes) to a gene called *KRAS* (pronounced KAY-rass), so doctors test metastatic colorectal tumors for these mutations before recommending them as a treatment option. However, the results of this study show that other changes in the *RAS* family of genes, which includes *KRAS*, affect how well panitumumab works.

The researchers found that among patients who were considered to have a normal *KRAS* gene based on current testing methods, 18% actually had a *RAS* mutation (in either *KRAS* or a related gene called *NRAS*). For patients who were given both panitumumab and chemotherapy, half of those with tumors that did not have any of these mutations lived for 16 months, compared with less than 12 months for those who had tumors with mutations. The researchers also found that although the combination treatment helped patients with unmutated tumors live approximately two months longer than chemotherapy, patients with mutated tumors lived about the same amount of time whether they received panitumumab or not.

What this means for patients

?By testing for additional *RAS* mutations, doctors will be able to recommend panitumumab treatment only to those who are most likely to benefit,? said lead study author Marc Peeters, MD,

PhD, a professor of oncology at Antwerp University Hospital in Edegem, Belgium. ?For patients with a *RAS* mutation, these findings will spare them the additional costs and side effects of a treatment that will not do more than chemotherapy alone.? Currently the U.S. Food and Drug Administration only requires doctors test metastatic colorectal tumors for one specific *KRAS* mutation before panitumumab treatment, and additional *RAS* testing may not be available for every patient. Talk with your doctor for more information about your options.

Questions to ask your doctor

- What type and stage of colorectal cancer do I have? What does this mean?
- Was the tumor tested for specific genetic changes?
- Is targeted therapy recommended? Why or why not?
- Are there any additional tests that should be done to help guide my treatment choices?
- Will my insurance cover the costs of these tests?

For More Information

Guide to Colorectal Cancer [2]

ASCO Answers: Colorectal Cancer [3] (PDF)

Understanding Targeted Therapy [4]

Facts About Personalized Cancer Medicine [5]

Links:
[1] http://www.cancer.net/beyond-kras-testing-tumors-other-genetic-mutations-helps-personalize-treatment-metastatic-colorectal
[2] http://www.cancer.net/node/18701
[3] http://www.cancer.net/colorectalguide
[4] http://www.cancer.net/node/24729
[5] http://www.cancer.net/node/24522