New Blood Tests For Cancer

Recent news has been released about a new blood test for cancer that is so sensitive that it can detect one cancer cell among billions of healthy cells. Stray tumor cells in the blood may indicate that a tumor has already spread. The test uses a microchip with 78,000 tiny posts, like the bristles on a brush, to capture tumor cells. The test is being developed at the Massachusetts General Hospital in conjunction with Johnson & Johnson. It is first being used to perform an early assessment of the effectiveness of chemotherapy, achieving in weeks what now takes several months to determine. Typically, Doctors give a chemotherapy treatment then have to wait two to three months to see shrinkage. This is like a liquid biopsy to determine the "in body" sensitivity to chemotherapy.

Analysis of tumor cells in the blood has been in development since early 2000. A similar study is being done at the University of Colorado in patients receiving chemotherapy who already have Breast Cancer. Because of the association of Montrose Memorial Hospital and the San Juan Cancer Center with the University of Colorado Cancer Center, this study is also available for patients here in Montrose and the Western Slope. The study is designed to evaluate whether a change in circulating tumor cells is useful in deciding which chemotherapy drugs to use.

If successful, these studies promise to have a profound impact on cancer care. It would allow a cancer to be followed in real time. Also chemotherapy could be chosen based on a rapid test result allowing Doctors to know if a cancer was developing resistance to treatment. This could be realized before the patient suffers a setback or subjective evidence of relapse on an exam or an X-ray.

In the future, it may be possible to use these tests to screen for cancer with a simple blood sample. This could be used in addition to a mammogram or colonoscopy to increase the ability to detect early cancers, but this remains in the future for now, pending the results of clinical trials.

Certainly, this will add to the growing list of molecular analyses and microchip array technology that is rapidly making its way into the Clinic. Hopefully, real progress today will translate into increased cures tomorrow.

Robert Kilbourn, MD, PhD
Medical Director, San Juan Cancer Center at MMH
Clinical Professor of Medicine
University of Colorado School of Medicine