



ASK DR. BOB . . .

with Dr. Bob Frank

Tumor Marks

We're often asked, "Are there any reliable blood tests that can be done by your doctor as part of a routine health screening examination that will detect hidden cancers?" Last month, I talked about the value of the PSA test, so I thought it would be a good idea this month to expand the topic of predictive tumor markers. First, it would be a good idea to define what is meant by a tumor marker—a substance that can be measured in tissue or body fluids that indicates the presence of a growing population of cancerous cells. Obviously, if such a reliable and sensitive tumor marker were available for a specific cancer, then routine measurements of such a tumor marker would allow a doctor to diagnose and cure the cancer at an early stage. But in reality, this is not usually the case.

There are a wide variety of tumor markers that have been developed and studied over the years. These markers may be an overproduction of hormones by the cancer cells, production of proteins that are usually produced only in the fetal stage, overproduction of particular enzymes by cancer cells (such as PSA) and various other types of glycoproteins that are produced by the cancer cells. When a new tumor marker is developed, there is always an age of enthusiasm in which the

tumor marker is promoted as a way to diagnose and cure many cancers. In the vast majority of cases, the more it is used the age of disillusion sets in. It is discovered the test is not sensitive and specific enough to be of value.

Sensitivity (the ability of a test to be positive if the cancer is present) and specificity (ability of the test to be negative if the disease is not present) are of extreme importance in determining the usefulness of a tumor marker. To be a good screening tumor marker, the sensitivity should be at least 75% and the specificity at least 95%. Unfortunately, most tumor markers do not have this high a sensitivity, and almost always never have such a high specificity. So the use of tumor markers for the detection and diagnosis of cancer is still limited. I talked last month about the problems with the PSA test, which is by far the most common tumor marker being performed today. A lot of the current tumor markers are most useful in the follow up period after a cancer has been treated, to try and determine if there is recurrence and what the prognosis for an individual may be. Currently, this is the most common area for tumor markers to be utilized.

I will go over several specific tumor markers. PSA was discussed last month. There is a reliable tumor marker called calcitonin, which is elevated early in a rare type of thyroid cancer called medullary cancer of the thyroid. The CEA (carcino-embryonic antigen) is elevated in a wide variety of cancers, but in studies has not been shown to be helpful in diagnosing these cancers earlier. It is commonly used to check on recurrence of various cancers, especially colon and lung cancer. The marker CA-125 has received a lot of press. It is elevated in ovarian cancer, also breast and colon cancer. It is true that it is elevated in a majority of stage 3 and 4 ovarian cancers, but in stages 1 and 2 (where the cancer may be curable), is elevated in only 10% of the cases. In addition, its specificity is not that

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good and it can be elevated in a variety of benign conditions. As such, despite what Oprah says, this test is not recommended by the experts as a screening test for ovarian cancer. Another tumor marker that is currently being widely used is that of AFP (alpha fetal protein). This is a test that shows if liver cancer is present, and is being done on a routine basis in individuals with chronic hepatitis B and C, all of whom are increased risk of liver cancer.

From the underwriting standpoint, tumor markers are very important when physicians are using them to monitor recurrence of a cancer. Obviously, negative tumor markers are a favorable prognostic sign, whereas if there is an elevation of a tumor marker indicative of an occult recurrence, this individual would be

probably uninsurable. However, remember our discussion about prostate cancer where PSA only recurrence may still be insurable in some cases.

I hope everyone has enjoyed these articles in FYI over the past several years. I have tried to make them as practical as possible, staying away from rare or esoteric types of illnesses. I could use some input from the readers of FYI about what topics you would like me to discuss. Please feel free to call me on ext. 2641 or e-mail me (rfrank@unioncentral.com) any suggested topics that you may like me to discuss. I would sincerely appreciate your input. Thanks for support of my articles and I wish all of you good health in 2005.