PSA Testing: Making Sense of the Rhetoric/Patient/Doctor Communications

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I. PSA Testing

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Prostate cancer is a huge problem in America. There are six men diagnosed with prostate cancer for every one man who dies of it. There is a huge problem with overtreatment, but the number of deaths from prostate cancer in America today should be zero.

ARS question: since the discovery of PSA, the death rate from prostate cancer has decreased 40%. There is currently controversy regarding active surveillance. The NCCN guidelines were changed in January 2010 to recommend only active surveillance in some categories of men. Active surveillance is inappropriate though in certain individuals. Active surveillance should be recommended when the PSA doubling time exceeds five years, when the cancer is slow-growing. Men whose cancer is poorly differentiated or presents as high volume disease, which is reflected either by being palpable or the PSA exceeding 20, are not appropriate for active surveillance.

Prostate cancer is a very complex disease. There is no sound data because men are notorious for not wanting to participate in clinical trials. Instead, we have guidelines which provide a framework for discussion with patients and for decision-making about treatment.

Prostate cancer still kills almost 30,000 people every year in the United States. Diagnosis of prostate cancer increased when PSA was discovered; this was thought to be the end of prostate cancer. We went through the first pass phenomenon, and the incidence of prostate cancer has essentially stabilized and now declined. If you draw a best-fit line, the incidence of prostate cancer worldwide is increasing 1.2% per year, and nobody knows the reason for this; the most likely cause is westernization of the diet worldwide.

PSA led to an increase in incidence in 1987 and every year since then, beginning in 1992. We leveled in every year since 1992 the mortality rate from the decline in prostate cancer to where that decline has reached 40%.

Here are the various screening recommendations. The American Urological Association believes its screening should begin at age 50 and stop when life expectancy falls to less than ten years, which is age 75 for an average man. If you are high risk because of African-American race, ethnicity, or family history, you should begin at 40. The American Cancer Society revised their guidelines on March 3rd, presenting not much difference from the original guidelines, yet the media picked up the emphasis that one should not be screened.

Men need to be counseled on the importance of getting a PSA. The American Cancer Society unfortunately made digital exam optional; we know that the man with the abnormal prostate exam and a normal PSA has the most aggressive form of prostate cancer. Ten percent of prostate cancers in America still occur in men with a PSA less than 2.5, and these are the most life-threatening of all the cancers. The ACS also unfortunately believes that age 45 is appropriate even for high risk candidates.

This speaker believes the NCCN guidelines are the best. This is for men who have decided that they want to have their prostate cancer early detected if they are ever going to get it; they have already made a decision for early detection. This is the best way that, if one wants to prevent death from prostate cancer, is the best: PSA exam at age 40, if it is less than one, wait five years; do PSA exam at age 45, if less than one again, wait until 50, and then PSA exam every year but decrease frequency with aging and stop when one's physiologic age exceeds 75.

Seventy percent of men with an elevated PSA have negative biopsies; this is the problem. You don't get diagnosed with prostate cancer by PSA; you get diagnosed by a biopsy. Only one-third of men with an elevated PSA will have prostate cancer. Men need to understand this as does family physicians.

One problem with PSA other than its potential elevation for a host of other reasons is that it fluctuates in a normal man, fluctuating up and down 20% around its mean. If PSA is measured frequently, this variation is captured. Also, it is better to look an entire series of PSAs than a snapshot PSA.

Regarding biopsy detection rate, there are too many men getting too many biopsies. If PSA is above the normal limit of 2.5-4.0 with normal velocity, ten biopsies are not needed. What is true about PSA is that it increases the detection of curable prostate cancer. If you get PSA in a serial fashion, it improves further the ability to detect organ confined curable prostate cancer. Contrary to what the American Cancer Society recommends, PSA will detect twice as many cancers as digital rectal exam, but the digital rectal exam is still essential for the diagnosis of the most aggressive prostate cancers.

There is increased incidence in familial prostate cancer, especially first degree relative; these men tend to present at a younger age yet are just as curable, and not more aggressive, as a non-familial prostate cancer. Also, we have an epidemic of prostate cancer in African-Americans, occurring twice as often, and when an African-American is diagnosed with prostate cancer, they are more than twice as likely to die of it than a Caucasian-American. PSA will perform better if it is used in high risk populations: men with first degree relatives with prostate cancer and men who are African-American.

The controversy with prostate cancer continues. Studies showed that in order to prevent one death from prostate cancer, 1400 men had to be screened and 48 cases of prostate cancer required treatment; this is the results which the media focused on.

In comparing the American prostate cancer trial to the European trial, the failure to detect a difference may have been due to a low PSA cutoff of four. The trial could be viewed as being biased not to find a positive result since prostate cancer cases had been removed previously from the population. Also, the follow-up was too short.

In looking at these trials, PSA was doomed to failure; older men were screened; African-Americans were not included in the European trial, and in America, they represented less than 4% of the study group; and family history was not collected, thus, high risk men were not studied. Overtreatment may blunt the benefits of appropriate treatment. Even with longer follow-up, the American study is unlikely to turn positive, but the European study published two weeks ago is already more positive than it was at first report 18 months ago. Annual screening may be too frequent; every two years seems to be the proper interval.

How is the NCCN reacting to these reports? In 2010, a new risk category was defined: very low risk prostate cancer. In this category, the only recommendation should be active surveillance when an individual is very low risk and life expectancy is less than 20 years. With low risk prostate cancer and life expectancy of less than 10 years, active surveillance also should be the only recommendation. The NCCN is the first cancer guideline committee to recommend non-treatment, and thus garnered press attention in February 2010. NCCN also defined the active surveillance program.

What is very low risk prostate cancer? Here is the definition from Johns-Hopkins. Rather than continue treating too many patients, clinicians must select those patients for treatment better, which requires offering, and acceptance by men of, active surveillance when appropriate.

Regarding PSA for early detection rather than screening, most academic medical centers in America are now offering and using the NCCN recommendations for active surveillance. Participation of African-Americans in active surveillance varies among the institutions. Active surveillance is no longer simply observation; rather, expectant management, watchful waiting, and active surveillance are all the same thing, which involves careful monitoring of the disease for any sign of progression and offering treatment where necessary.