

## PSA screening: the bottom line

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When asked to write an editorial about prostate-specific antigen (PSA) screening to accompany one entitled, "PSA screening: a view from the front lines" by Greiver and colleagues<sup>1</sup> (page 789), I predicted that I would have to defend the urologist's point of view. The views presented "from the front lines" were quite well balanced, however, and I found myself in general agreement. There were a few points that I felt needed further clarification.

The acceptance of a given screening test for the detection of disease is based on the premise that a sample of people who have undergone screening tests will fare better in terms of mortality than a sample from the same population who have not. In a recent study Labrie and colleagues<sup>2</sup> compared the prostate cancer mortality rates between 1989 and 1996 of men from Quebec City who were screened for PSA with those who were not; they found that early diagnosis and treatment through PSA screening resulted in a dramatic decrease in deaths from prostate cancer. A more definitive assessment of the efficacy of PSA screening programs in reducing disease-specific mortality rates awaits the results of 2 major randomized controlled trials under way in the United States<sup>3</sup> and Europe.<sup>4</sup>

A clear downward trend in prostate cancer mortality has been reported among men in Canada<sup>5</sup> and the United States.<sup>6-8</sup> In Canada age-standardized prostate cancer mortality rates declined by 9.6% between 1991 and 1996,<sup>5</sup> and in the US the annual prostate cancer death rate has declined an average of 1% per year since 1990.<sup>8</sup> This downward trend in mortality coincided with an increase in PSA screening.<sup>6,7,9</sup> Although these data may reflect earlier diagnosis and treatment of advanced disease, as well as more definite treatment of localized disease, the figures are compelling.

Before we adopt a universal screening program for the early detection of disease it is important that an effective treatment be available to those diagnosed. Although some studies report prolonged progression-free survival following radical prostatectomy<sup>10-12</sup> and suggest that this is a result of earlier treatment and more organ-confined disease, others suggest that the benefits of prostatectomy have been overestimated.<sup>13</sup> Until we can determine if the prolonged survival is a result of earlier detection and treatment or the fact that less-malignant tumors are being identified by screening, we cannot argue against prudence in prescribing PSA testing for all men between 50 and 70 years of age. PSA screening every 5 years does not seem adequate, how-

ever. I agree that yearly testing is reasonable unless a serum PSA level is below 1.0 ng/mL, in which case testing every 2 years would be acceptable.

I fully agree with providing patients with all of the balanced and evidence-based information available (for example, the *Prostate Specific Antigen* brochure published by the Canadian Prostate Health Council, PO Box 7600, Dorval QC H9R 4P8) and believe that if patients are made aware of all the recent accumulating data most will opt to have the PSA test done. However, for patients presenting with urinary symptoms and in whom the diagnosis of prostate cancer could alter management, "screening" is no longer the issue.

As many as 20% of patients with normal PSA test results may be diagnosed with prostate cancer,<sup>14</sup> which supports the notion that a digital rectal examination is also an important diagnostic tool. There is general agreement that the digital rectal examination alone fails to identify a substantial proportion of men with prostate cancer, and the use of both tests would probably lead to the best detection of prostate cancer. There is less consensus, however, about the level at which an additional course of action should be recommended once a PSA test has been done. Although a serum level between 0 ng/mL and 4.0 ng/mL PSA is considered normal, it has been suggested that the upper limit of normal (i.e., 4 ng/mL) might be too high, particularly for younger (i.e., 45-55 years of age) men where the prostate size is small, and that any results above 2.5-3.0 ng/mL might warrant a referral to a urologist.<sup>2,15</sup> Measuring the percentage of free PSA may enhance the sensitivity and specificity of PSA testing for prostate cancer and may therefore reduce the number of patients with a high PSA test result but high or normal free PSA who would otherwise have required an unnecessary biopsy. However, the reality is that for serum PSA levels between 4 ng/mL and 10 ng/mL, the lower the cutoff below which a biopsy will be recommended, the fewer cancers will be missed – but more biopsies will be performed as a result.

Prostate cancer is the second most frequent cause of cancer-related death among men; early diagnosis is essential. The bottom line is that the PSA test is one of the most significant biochemical tests for the early detection of cancer. The majority of cancers diagnosed by PSA (85%-90%) are those that, if left untreated, would most likely progress. However, we should not be diagnosing cancer unless we intend to treat it. Much of the data that suggest a reduced quality of life after radical prostatectomy tend not to factor

in the availability of effective treatments for the morbidities (i.e., urinary incontinence and impotence) reported.

We should continue to strive to provide our patients with the most up-to-date information and let them participate in the decision-making process when choosing whether to have a certain test or procedure, but patients should be given the choice. Therefore, I strongly feel that physicians should initiate the discussion on PSA testing with their patients.

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