According to a study in the journal Cancer, without the use of PSA screening the number of men presenting with cases of metastatic prostate cancer would be three times greater than the actual number observed today.

According to a study by researchers at the University of Rochester Medical Center, without the use of prostate-specific antigen (PSA) screening the number of men presenting with cases of metastatic prostate cancer would be three times greater than the actual number observed. The study was published in the journal Cancer.[1]

"There would be 25,000 men with newly diagnosed prostate cancer who had metastases at the time of diagnosis rather than the 8,000 cases actually seen currently," said Edward M. Messing, MD, department of urology, University of Rochester Medical Center, in an email to CancerNetwork. Dr. Messing is one of the authors of the study. "PSA can effect a significant shift to an earlier stage at diagnosis—which is all you can expect a screening test to do (allow you to detect the disease earlier when it is still curable)."

The authors extrapolated the way prostate cancer was diagnosed in 1983 to 1985, the years just before the PSA test was approved by the US Food and Drug Administration, onto the current US population using the same nine Surveillance, Epidemiology, and End Results (SEER) registries that existed in 1983 to 1985—San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta)—in essence eliminating the influence of PSA testing on the diagnosis of prostate cancer.

The expected number was computed by multiplying each age-race-specific average annual incidence rate from the pre-PSA era by the number of men in the corresponding age-race category in the year 2008 (the most recent SEER year) and adding the products. In 2008, the observed and expected numbers of men presenting with metastatic prostate cancer in the nine registries were 739 and 2277, respectively, with an expected-to-observed ratio of 3.1 (95% confidence interval, 3.0-3.2). When applied to the general population, Messing and colleagues estimated that 25,000 men would have had metastatic prostate cancer at diagnosis in 2008 without PSA screening. In contrast, the actual number of cases at diagnosis in 2008 was 8,000.

"We used metastatic prostate cancer not only because it is an invariably fatal, highly symptomatic, very costly-to-treat condition (so in its own right, very serious), but because it is a stage of the disease that, if untreated, rapidly becomes symptomatic so would be very unlikely to have been overlooked in the pre-PSA era, or today," said Dr. Messing.

There has been much debate about whether to use PSA screening for prostate cancer. In May, the US Preventive Services Task Force issued finalized guidelines, stating that the small potential benefit of PSA screening in asymptomatic patients does not outweigh the expected harms for slow-growing and not life-threatening cancerous tumors.

Earlier this year a European trial reconfirmed findings that a reduction in death rates from prostate cancer is seen in men who are screened for the disease. The study, however, found no significant
difference in overall mortality between patients who were screened and those who were not. "The conundrum is that PSA can't distinguish patients with aggressive prostate cancer versus indolent prostate cancer," said Dr. Messing. Patients with indolent cancer, who represent about one-third to half of all men diagnosed with prostate cancer currently, often don't need or benefit from treatment, yet incur the risks and side effects of the treatments. "However," said Dr. Messing, "urologists and oncologists now recognize that those men rarely need treatment and are recommending no treatment and just careful monitoring in many of them."

Biopsies can cause fever, bleeding, and infection; radiation therapy and surgery can cause urinary incontinence and erectile dysfunction. Each patient should have all the risks explained rather than having a PSA test denied to them, said Dr. Messing. "Without having the option to take the test, and to undergo the biopsy, if they actually harbored high-risk or large amounts of intermediate-risk cancer, they would lose the opportunity to have it diagnosed and treated early—and a good to excellent chance to have it cured."

Since the mid 1990s, prostate cancer mortality has decreased in the United States from 42,000 deaths per year to 28,000 deaths per year today. "Despite its negatives, PSA testing does do some good," said Dr. Messing. "With PSA and earlier detection (and treatment) being the only thing that explains most of this decline."

Reference


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