Prostate cancer screening: New data support watchful waiting

August 14 2013

Prostate cancer aggressiveness may be established when the tumor is formed and not alter with time, according to a study published in *Cancer Research*, a journal of the American Association for Cancer Research.

Researchers found that after the introduction of widespread prostate-specific antigen (PSA) screening, the proportion of patients diagnosed with advanced-stage cancers dropped by more than six-fold in 22 years, but the proportion diagnosed with high Gleason grade cancers did not change substantially. This suggests that low-grade prostate cancers do not progress to higher grade over time.

Cancer stage refers to the extent or spread of the disease, and cancer grade, called Gleason grade for prostate cancer, refers to the aggressiveness of the disease.

"We were able to look at finely stratified time periods to capture pre-PSA, early-PSA, and late-PSA eras within one study. Over time, because of PSA screening, men have been more likely to be diagnosed with prostate cancer at an earlier stage, before the disease has had an opportunity to grow and spread. If Gleason grade also progressed over time, we would expect a similar decrease in high Gleason grade disease over time," said Kathryn Penney, Sc.D., instructor in medicine at the Harvard Medical School and associate epidemiologist at the Channing Division of Network Medicine at Brigham and Women's Hospital in Boston, Mass. "We were surprised by just how constant the incidence of high-grade disease has been over time."

This study adds more evidence to the argument that patients who are diagnosed with low-grade prostate cancers can opt for an active surveillance, or "watch and wait" approach instead of getting treated right away.

Penney and colleagues used data from 420 participants recruited to the Physicians' Health Study and 787 participants recruited to the ongoing Health Professionals Follow-up Study. All participants were diagnosed with prostate cancer between 1982 and 2004, and treated with surgery. The researchers reanalyzed prostate tissue collected from these patients to assess Gleason grade.

The researchers divided the data into four time periods based on when the participants received a diagnosis and treatment: 1982-1993, 1993-1996, 1996-2000, and 2000-2004, to represent the pre-PSA and PSA eras. They found that the number of participants who had undergone PSA screening increased from 42 percent in 1994 to 81 percent in 2000.

They also found that the number of late-stage cancers decreased from 19.9 percent in the 1982-1993 group to just 3 percent in the 2000-2004 group, reflecting an 85 percent drop in stage at diagnosis. However, there was only a moderate decrease in high Gleason grade cancers, from 25.3 percent in the 1982-1993 group to 17.6 percent in the 2000-2004 group, reflecting a 30 percent drop.

With further analyses, the researchers found that the moderate drop in high Gleason grade cancers was not because progression to more aggressive disease was prevented through screening, but because of an increased diagnosis of low-grade disease that would not have been detected without PSA screening.

"Radical prostatectomy or radiation therapy, the usual treatments for

prostate cancer, can have negative side effects such as impotence and incontinence; choosing active surveillance could prevent this decline in quality of life," said Penney. "Men with low-grade disease at diagnosis should seriously consider talking with their doctors about active surveillance."

Provided by American Association for Cancer Research