Prostate cancer patients more likely to die of other diseases, say 15-year PLCO results

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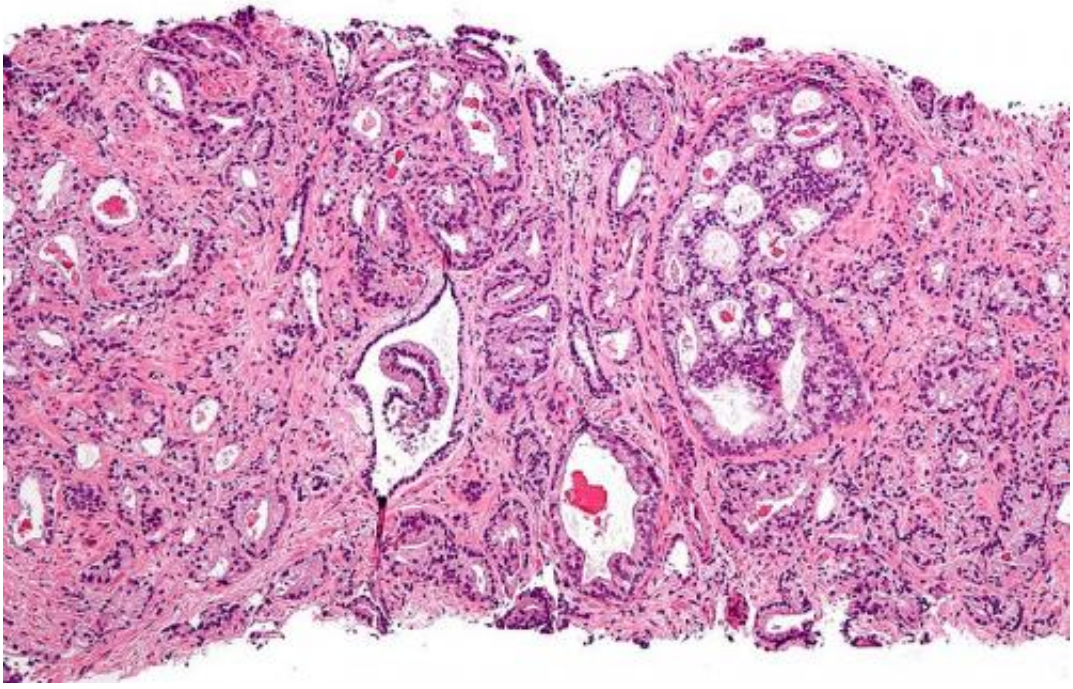

Micrograph showing prostatic acinar adenocarcinoma (the most common form of prostate cancer) Credit: Wikipedia, CC BY-SA 3.0

Starting in 1993 and ending in 2001, ten academic medical centers in the United States screened 76,685 men and 78,216 women for prostate, lung, colorectal and ovarian cancers. The question was whether yearly screening could catch cancers early and thus decrease mortality from these diseases. Fifteen-year follow-up results focusing on prostate cancer were published this month in the journal *Cancer*, and show little

difference in mortality between men screened annually and the control group, some of whom chose to be screened occasionally. According to researchers, the results don't necessarily negate the value of prostate cancer screening, but imply that within the data of this massive trial are clues that inform personalized decisions for subsets of this prostate cancer population.

"What we can see from these results is that most men diagnosed with prostate cancer will not die from their disease. In 15 years, people on the study died from lots of other things. However, we can also see that now we need to focus on discovering the men that will," says E. David Crawford, MD, investigator at the University of Colorado Cancer Center and study co-author.

Specifically, in the intervention arm that received annual prostate cancer screening, 255 men have died of prostate cancer since the start of the trial. In all, 244 men in the control arm, who did not receive annual screening (but may have received self-directed intermittent screening), died of prostate cancer. By comparison, 1,933 and 1,882 men in the experimental and control arms, respectively, died of other cancers. Slightly more in each group died of heart-related conditions.

According to Crawford, these data imply that some men need not be screened for prostate cancer.

"For example, we have since shown that men with PSA lower than one have only about a 0.5 percent chance of being diagnosed with prostate cancer within 10 years," Crawford says. Administering a PSA test first and then not screening men with PSA less than one would save billions of dollars in healthcare costs every year.

However, in addition to discovering no decreased mortality with yearly prostate cancer screening compared with intermittent screening,

Crawford suggests that these results could be used to discover men who do, in fact, benefit from careful monitoring.

"I treated a guy who'd been diagnosed in his 40s," says Crawford. "We did surgery, but then a year later he was diagnosed with melanoma. It turned out that at the same time, his sister was diagnosed with triple-negative breast cancer and died within the year. Being diagnosed with prostate cancer in your 40s is a red flag that there might be a germline mutation to blame, predisposing these men and maybe family members who share the mutation to more, and more aggressive cancers. The PLCO shows that most men don't benefit from screening, but if we could have used the data to spot this guy, maybe we could have even tested his sister as well."

And so the takeaway from this retrospective on a massive study, 15 years after the completion of data gathering, is that despite what many have characterized as failure - after all, yearly screening did not result in overall lives saved - is that inside this data (or in related, follow-up studies) may still exist clues that could stratify prostate cancer risk.

Alongside the risks and costs of over-diagnosis and over-treatment that come with screening the entire population of men for prostate cancer still exists hope that screening only those with higher risk, at the right schedule, could save lives.

More information: Paul F. Pinsky et al, Extended mortality results for prostate cancer screening in the PLCO trial with median follow-up of 15 years, *Cancer* (2016). DOI: 10.1002/cncr.30474

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