Extended mortality results for prostate cancer screening in the PLCO trial with median follow-up of 15 years.

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Abstract

BACKGROUND: Two large-scale prostate cancer screening trials using prostate-specific antigen (PSA) have given conflicting results in terms of the efficacy of such screening. One of those trials, the Prostate, Lung, Colorectal, and Ovarian (PLCO) Cancer Screening Trial, previously reported outcomes with 13 years of follow-up. This study presents updated findings from the PLCO trial.

METHODS: The PLCO trial randomized subjects from 1993 to 2001 to an intervention or control arm. Intervention-arm men received annual PSA tests for 6 years and digital rectal examinations for 4 years. This study used a linkage with the National Death Index to extend mortality follow-up to a maximum of 19 years after randomization.

RESULTS: Men were randomized to the intervention arm (n = 38,340) or the control arm (n = 38,343). The median follow-up time was 14.8 years (25th/75th, 12.7/16.5 years) in the intervention arm and 14.7 years (25th/75th, 12.6/16.4 years) in the control arm. There were 255 deaths from prostate cancer in the intervention arm and 244 deaths from prostate cancer in the control arm; this meant a rate ratio (RR) of 1.04 (95% confidence interval [CI], 0.87-1.24). The RR for all-cause mortality was 0.977 (95% CI, 0.950-1.004). It was estimated that 86% of the men in the control arm and 99% of the men in the intervention arm received any PSA testing during the trial, and the estimated yearly screening-phase PSA testing rates were 46% and 84%, respectively.

CONCLUSIONS: Extended follow-up of the PLCO trial over a median of 15 years continues to indicate no reduction in prostate cancer mortality for the intervention arm versus the control arm. Because of the high rate of control-arm PSA testing, this finding can be viewed as showing no benefit of organized screening versus opportunistic screening. Cancer 2017;123:592-599. © 2016 American Cancer Society.

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