

A nutrient approach to prostate cancer prevention: The Selenium and Vitamin E Cancer Prevention Trial (SELECT). B. K. Dunn, E. S. Richmond, L. M. Minasian, A. M. Ryan, L. G. Ford, *Nutr. Cancer*, **62**, 896-918 (2010).

The Selenium and Vitamin E Cancer Prevention Trial (SELECT) randomized 35,533 healthy men, >55 yr old (>50 yr if African American), with normal digital rectal exams and prostate specific antigens <4 ng/ml to 1) 200 µg/day l-selenomethionine, 2) 400 IU/day all-rac-alpha-tocopheryl acetate (vitamin E), 3) both supplements, or 4) placebo for 7 to 12 yr. The hypotheses underlying SELECT, that selenium and vitamin E individually and together decrease prostate cancer incidence, derived from epidemiologic and laboratory evidence and significant secondary endpoints in the Nutritional Prevention of Cancer (selenium) and Alpha-Tocopherol Beta-Carotene (vitamin E) trials. In SELECT, prostate cancer incidence did not differ among the 4 arms: hazard ratios [99% confidence intervals (CIs)] for prostate cancer were 1.13 (99% CI = 0.95-1.35, P = 0.06; n = 473) for vitamin E, 1.04 (99% CI = 0.87-1.24, P = 0.62; n = 432) for selenium, and 1.05 (99% CI = 0.88-1.25, P = 0.52; n = 437) for selenium + vitamin E vs. 1.00 (n = 416) for placebo. Statistically nonsignificant increased risks of prostate cancer with vitamin E alone [relative risk (RR) = 1.13, P = 0.06] and newly diagnosed Type 2 diabetes mellitus with selenium alone (RR = 1.07, P = 0.16) were observed. SELECT data show that neither selenium nor vitamin E, alone or together, in the doses and formulations used, prevented prostate cancer in this heterogeneous population of healthy men.