Dietary intake of isoflavones and coumestrol and the risk of prostate cancer in the Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial.

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Experimental studies have revealed that phytoestrogens may modulate the risk of certain sites of cancer due to their structural similarity to 17β-estradiol. The present study investigates whether intake of these compounds may influence prostate cancer risk in human populations. During a median follow up of 11.5 years, 2,598 cases of prostate cancer (including 287 advanced cases) have been identified among 27,004 men in the intervention arm of the Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial. Dietary intake of phytoestrogens (excluding lignans) was assessed with a food frequency questionnaire. Cox proportional hazards regression analysis was performed to estimate hazard ratios (HRs) and 95% confidence intervals (CI) for dietary isoflavones and coumestrol in relation to prostate cancer risk. After adjustment for confounders, an increased risk of advanced prostate cancer [HR (95% CI) for quintile (Q) 5 vs. Q1] was found for the dietary intake of total isoflavones [1.91 (1.25-2.92)], genistein [1.51 (1.02-2.22)], daidzein [1.80 (1.18-2.75) and glycitein [1.67 (1.15-2.43)] (p-trend for all associations ≤0.05). For example, HR (95% CI) for comparing the Q2, Q3, Q4 and Q5 with Q1 of daidzein intake was 1.45 (0.93-2.25), 1.65 (1.07-2.54), 1.73 (1.13-2.66) and 1.80 (1.18-2.75), respectively (p-trend: 0.013). No statistically significant associations were observed between the intake of total isoflavones and individual phytoestrogens and non-advanced and total prostate cancer after adjustment for confounders. This study revealed that dietary intake of isoflavones was associated with an elevated risk of advanced prostate cancer.

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