Association between Cannabis Use and the Risk of Bladder Cancer: Results from the California Men’s Health Study


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OBJECTIVE: To investigate the association of cannabis use and tobacco smoking on the incidence of bladder cancer within the California Men’s Health Study cohort.

METHODS: We evaluated the records of 84,170 participants in a multiethnic cohort of men aged 45-69 years. Information on demographic and lifestyle factors including smoking history and cannabis use was collected using mailed questionnaires between 2002 and 2003. We linked the study data with clinical records including cancer data from electronic health records.

RESULTS: Overall 34,000 (41%) cohort members reported cannabis use, 47,092 (57%) reported tobacco use, 22,500 (27%) reported using both, and 23,467 (29%) used neither. Men were followed over an 11-year period and 279 (0.3%) developed incident bladder tumors. Among cannabis users, 89 (0.3%) developed bladder cancer in comparison to 190 (0.4%) men who did not report cannabis use (P < .001). After adjusting for age, race or ethnicity, and body mass index, using tobacco only was associated with an increased risk of bladder cancer (hazard regression [HR], 1.52; 95% confidence interval [CI], 1.12-2.07), whereas cannabis use only was associated with a 45% reduction in bladder cancer incidence (HR, 0.55; 95% CI, 0.31-1.00). Using both cannabis and tobacco was associated with an HR of 1.28 (95% CI, 0.91-1.80).

CONCLUSION: Although a cause and effect relationship has not been established, cannabis use may be inversely associated with bladder cancer risk in this population.