Abstract

Although experimental studies suggest that fruits, vegetables and legumes may exert protective effects against prostate carcinogenesis through various bioactive compounds such as dietary fibre and antioxidants, epidemiological evidence is lacking. Notably, very few prospective studies have investigated the relationship between legume intake and prostate cancer risk. Our objective was to prospectively investigate the association between fruit, vegetable, tomato products, potatoes and legume intakes and prostate cancer risk. This study included 3313 male participants to the Supplémentation en Vitamines et Minéraux Antioxydants cohort (follow-up: 1994-2007) who completed at least three 24-h dietary records during the first 2 years of follow-up. Associations between tertiles of intake and prostate cancer risk were assessed by multivariate Cox proportional hazards models. After a median follow-up of 12·6 years, 139 incident prostate cancers were diagnosed. An inverse association was observed between prostate cancer risk and tertiles of legume intake (hazard ratio (HR)T3 v T1 = 0·53; 95 % CI 0·34, 0·85; P trend=0·009). This association was maintained after excluding soya and soya products from the legume group (HRT3 v T1 = 0·56; 95 % CI 0·35, 0·89; P trend=0·02). No association was observed between prostate cancer risk and tertiles of intakes of fruits (P trend=0·25), vegetables (P trend=0·91), potatoes (P trend=0·77) and tomato products (P trend=0·09). This prospective study confirms the null association between fruit and non-starchy vegetable intakes and prostate cancer risk observed in most previous cohorts. In contrast, although very few prospective studies have been published on the topic, our results suggest an inverse association between legume intake and prostate cancer risk, supported by mechanistic plausibility. These results should be confirmed by large-scale observational and intervention studies.

KEYWORDS: Fruits; HR hazard ratio; Legumes; PSA prostate-specific antigen; Prospective studies; Prostate cancer; SU.VI.MAX Supplémentation en Vitamines et Minéraux Antioxydants; Vegetables

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