Dietary, but not supplemental, intakes of carotenoids and vitamin C are associated with decreased odds of lower urinary tract symptoms in men.

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OBJECTIVE: Lower urinary tract symptoms (LUTS) in men may be related to micronutrients involved in prevention of oxidative damage or cell growth and differentiation. We tested the hypothesis that carotenoid, vitamin A, and vitamin C intake were inversely associated with total LUTS, voiding, and storage symptoms.

METHODS: We conducted a cross-sectional multivariate analysis of 1466 men aged 30-79 y in the Boston Area Community Health survey (2002-2005), a population-based random sample survey. Data were collected by in-person interview and validated FFQ. Moderate-to-severe LUTS were defined using the American Urological Symptom Index and analyzed using multivariate logistic regression.

RESULTS: Overall, men consuming greater dietary lycopene, β-carotene, total carotenoid, or vitamin A had ~40-50% decreased odds of LUTS compared with the lowest intake quartiles (e.g. β-carotene and storage symptoms, OR = 0.56, 95% CI = 0.39, 0.82; P-trend = 0.02). Interactions were observed between dietary iron and vitamin C or β-cryptoxanthin, whereby inverse associations with LUTS, particularly voiding symptoms, occurred only among men with moderate-to-high iron intake (P-interaction = 0.001). High-dose supplemental and total vitamin C were positively associated with LUTS (e.g. supplemental vitamin C ≥ 250 mg/d, OR = 1.83, 95% CI = 1.21, 2.77; P-trend = 0.02). An interaction between β-carotene and smoking status (P-interaction = 0.004) indicated greater odds of LUTS with higher β-carotene intake among current smokers.

CONCLUSIONS: Results suggest that modifying consumption of carotenoids and vitamin C may influence LUTS in men.

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