

**Antioxidant vitamin and mineral supplementation and prostate cancer prevention in the SU.VI.MAX trial.**

[Meyer F](#), [Galan P](#), [Douville P](#), [Bairati I](#), [Kegle P](#), [Bertrais S](#), [Estaquio C](#), [Hercberg S](#).

Laval University Cancer Research Center, Québec, Canada. francois.meyer@chuq.qc.ca

Randomized trials have shown, unexpectedly, that supplementation with selenium or vitamin E is associated with a reduction of prostate cancer risk. We assess whether a supplementation with **low doses of antioxidant vitamins and minerals** could reduce the occurrence of prostate cancer and influence biochemical markers. **The SU.VI.MAX trial comprised 5,141 men randomized to take either a placebo or a supplementation with nutritional doses of vitamin C, vitamin E, beta-carotene, selenium and zinc daily for 8 years.** Biochemical markers of prostate cancer risk such as prostate-specific antigen (PSA) and insulin-like growth factors (IGFs) were measured on plasma samples collected at enrollment and at the end of follow-up from 3,616 men. Cox regression models were used to estimate the hazard ratio and related 95% confidence interval of prostate cancer associated with the supplementation and to examine whether the effect differed among predetermined susceptible subgroups. During the follow-up, 103 cases of prostate cancer were diagnosed. Overall, there was a moderate nonsignificant reduction in prostate cancer rate associated with the supplementation (hazard ratio = 0.88; 95% CI = 0.60-1.29). However, the effect differed significantly between men with normal baseline PSA (< 3 microg/L) and those with elevated PSA ( $p = 0.009$ ). **Among men with normal PSA, there was a marked statistically significant reduction in the rate of prostate cancer for men receiving the supplements (hazard ratio = 0.52; 95% CI = 0.29-0.92).** In men with elevated PSA at baseline, the supplementation was associated with an increased incidence of prostate cancer of borderline statistical significance (hazard ratio = 1.54; 95% CI = 0.87-2.72). The supplementation had no effect on PSA or IGF levels. **Our findings support the hypothesis that chemoprevention of prostate cancer can be achieved with nutritional doses of antioxidant vitamins and minerals.** Copyright 2005 Wiley-Liss, Inc