

Vitamin E may increase tuberculosis risk in male smokers with high vitamin C intake

Six-year vitamin E supplementation increased tuberculosis risk by 72% in male smokers who had high dietary vitamin C intake, but vitamin E had no effect on those who had low dietary vitamin C intake, according to a study published in the *British Journal of Nutrition*.

Previous studies had suggested that vitamin E might improve the immune system. In animal studies vitamin E seemed to protect against various infections.

Harri Hemila and Jaakko Kaprio, of the University of Helsinki, Helsinki, Finland, studied whether vitamin E supplementation might decrease the risk of tuberculosis. They analyzed the data of the randomized trial (Alpha-Tocopherol Beta-Carotene Cancer Prevention Study) which was conducted in Finland between 1985-1993 and included male smokers aged 50-69 years. There were 174 cases of tuberculosis in 29,023 participants during the 6-year supplementation of 50 mg/day vitamin E.

The effect of vitamin E on tuberculosis risk was modified by the intake of vitamin C in diet. Vitamin E had no effect on participants who had dietary vitamin C intake less than 90 mg/day. Unexpectedly, vitamin E supplementation increased tuberculosis risk by 72% in those who had dietary vitamin C intake over 90 mg/day. The most dramatic increase in tuberculosis risk by vitamin E was restricted to a one-year period after the initiation of supplementation.

The US nutritional recommendations, issued by the prestigious Institute of Medicine, consider that vitamin E is safe in amounts up to 1000 mg/day. This new study suggests that in some population groups vitamin E supplementation may be harmful at a substantially lower dose, 50 mg/day.

The researchers concluded that “the consumption of vitamin E supplements by the general population should be discouraged because there is evidence of harm for some people.”

Source: University of Helsinki

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