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The effect of vitamin D supplementation on breast density changes: A clinical trial study

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Background: Previous evidence suggests that vitamin D reduces the incidence and mortality of breast cancer. The aim of this study was to determine the effect of supplementation with 50,000 IU/monthly vitamin D for one year on breast density in Iranian women.

Methods: This double-blind, placebo-controlled, single center clinical trial was conducted among 500 women aged 40 years and older. Participants were allocated to two groups. Group 1 received vitamin D 50,000 IU in tablet form, monthly, for one year. Group 2 received vitamin E 400 IU in tablet form, for the same period of time. Participants had follow up clinic visits every six months and received an annual mammogram.

Results: Final data were evaluated based on 216 and 194 women in the treatment and control groups. The mean decrease in mammographic density was -5.01% (95% CI, -9.9% to -0.01%) and -2.34%(95% CI, -6.84% to -2.15%) in the treatment and control groups, respectively. There was no significant association between vitamin D consumption and breast density after one year (OR=0.7, 95% CI, 0.46 to 1.06; P=0.1). Similar results were observed when multivariate model of logistic regression analysis was performed and vitamin D consumption was not significantly associated with breast density, independent of other variables (OR=1.07.95% CI, 0.58 to 1.96; P=0.8).

Discussion: This study showed that monthly consumption of 50,000 IU of vitamin D supplementation for one year did not effect on breast density.

Biography

Sadaf Alipour, MD, Cancer Surgeon, Breast Surgeon was an Associate professor in Surgery in Arash Women's Hospital, Tehran University of Medical Sciences. She is interested in the Field of Breast Cancer, Breast Surgery.

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