Role of vitamin D in blood pressure homeostasis.


Source
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Abstract
Hypovitaminosis D is suspected to be linked to several types of cancer, metabolic syndrome, cardiovascular disease, and all-cause mortality. This review explores the relationship of vitamin D to blood pressure and hypertension, a major cardiovascular disease risk factor. The literature up to June 2009 was searched without language or time restrictions from MEDLINE and PubMed, and it was supplemented with references from included studies. Ten observational studies and nine randomized control trials concerned with the association between vitamin D and blood pressure were identified and analyzed. Of these, eight observational studies and three randomized control trials supported an inverse association between vitamin D and blood pressure. Current observational studies strongly support an inverse association between vitamin D and blood pressure, but this association has yet to be convincingly supported with randomized control trials. More research is needed to determine the amount of vitamin D supplementation or ultraviolet B irradiation needed to maintain optimal serum 25-hydroxyvitamin D levels and to lower high blood pressure and to determine who can benefit from vitamin D supplementation or ultraviolet B irradiation.

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