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Vitamins K1 and K2: The Emerging Group of Vitamins Required for Human Health

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Abstract

Objective: To review the evidence for the use of vitamin K supplementation in clinical conditions such as osteoporosis, vascular calcification, arthritis, cancer, renal calculi, diabetes, and warfarin therapy.

Quality of evidence: PubMed was searched for articles on vitamin K (K1 and K2) along with books and conference proceedings and health conditions listed above. Level I and II evidence supports the use of vitamins K1 and K2 in osteoporosis and Level II evidence supports vitamin K2 in prevention of coronary calcification and cardiovascular disease. Evidence is insufficient for use in diabetes, arthritis, renal calculi, and cancer.

Main message: Vitamin K2 may be a useful adjunct for the treatment of osteoporosis, along with vitamin D and calcium, rivaling bisphosphonate therapy without toxicity. It may also significantly reduce morbidity and mortality in cardiovascular health by reducing vascular calcification. Vitamin K2 appears promising in the areas of diabetes, cancer, and osteoarthritis. Vitamin K use in warfarin therapy is safe and may improve INR control, although a dosage adjustment is required.

Conclusion: Vitamin K supplementation may be useful for a number of chronic conditions that are afflicting North Americans as the population ages. Supplementation may be required for bone and cardiovascular health.

Research Materials

NCI CPTC Antibody Characterization Program