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The joint association of vitamin D and vitamin K with incident hypertension and cardiovascular health for chronic kidney disease patients

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Cardiovascular disease and osteoporosis are major age-related causes of morbidity and premature death that occur among older adults. Emerging evidence suggests that calcium from bone is deposited in the arteries. This leads to calcification in valves and vessels, which is associated with a 3-4 fold higher risk of coronary heart disease. Calcium and vitamin D supplementation is frequently advised in older adults for the prevention of osteoporosis and to reduce the risk of fractures and falls. However, recent RCT's showed that individuals taking calcium and vitamin D were at higher risk of cardiovascular disease. The widespread use of vitamin D and calcium supplements, and the fortification of vitamin D in food products, underscores the need for further investigation. Recent studies show that vitamin K reduces coronary calcification and cardiovascular disease. New evidence suggests that vitamin K combined

with vitamin D can lower vascular calcification more than the effect of either alone. This presentation will give a brief overview of the current body of evidence of joint associations between vitamin D and vitamin K with hypertension and underlying mechanisms of cardiovascular disease in multiple cohort studies in chronic kidney disease patients. The combination of low vitamin D and K status is associated with increased blood pressure and might play a role in development of hypertension and cardiovascular disease risk. These promising results of the joint associations of vitamin D and vitamin K in relation to cardiovascular health stimulate further follow-up studies to better understand the clinical implications of this relationship to promote cardiovascular health.

Biography

A J Van Ballegooijen is working in VU Medical Center, Department of Nephrology, Amsterdam, The Netherlands. She completed her postdoctoral research in University of Washington.

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