The relationship between vitamin K and peripheral arterial disease.

Vissers LE, Dalmeijer GW, Boer JM, Verschuren WM, van der Schouw YT, Beulens JW.

Julius Center for Health Sciences and Primary Care, University Medical Center Utrecht, Utrecht, The Netherlands; National Institute for Public Health and the Environment (RIVM), Bilthoven, The Netherlands.

BACKGROUND AND AIMS: A high dietary intake of vitamin K1 (phyloquinone) and vitamin K2 (menaquinones) is thought to decrease cardiovascular disease risk by reducing vascular calcification. The objective of this study is to explore if there is a relationship between phylloquinone and menaquinones intake and risk of PAD.

METHODS: We investigated the association between intake of phylloquinone and menaquinones with PAD in a prospective cohort with 36,629 participants. Occurrence of PAD was obtained by linkage to national registries. Baseline intake of phylloquinone and menaquinones was estimated using a validated food-frequency questionnaire. Multivariate Cox regression was used to estimate adjusted hazard ratio's for the association.

RESULTS: During 12.1 years (standard deviation 2.1 years) of follow-up, 489 incident cases of PAD were documented. Menaquinones intake was associated with a reduced risk of PAD with a hazard ratio (HR) of 0.71, 95% CI; 0.53-0.95 for the highest versus lowest quartile. A stronger association was observed (p interaction 0.0001) in participants with hypertension (HRQ4 versus Q1 0.59; 95% CI 0.39-0.87) or diabetes (HRQ4 versus Q1 0.56; 95% CI 0.18-1.91), though confidence intervals were wide in the small (n = 530) diabetes stratum. Phylloquinone intake was not associated with PAD risk.

CONCLUSIONS: High intake of menaquinones was associated with a reduced risk of PAD, at least in hypertensive participants. High intake of phylloquinone was not associated with a reduced risk of PAD.

PMID: 27494446