PATIENTS WITH UNSTABLE CONTROL HAVE A POORER DIETARY INTAKE OF VITAMIN K COMPARED WITH PATIENTS WITH STABLE CONTROL OF ANTICOAGULATION

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Vitamin K is an essential co-factor required for the post-ribosomal activation of clotting proteins. There is evidence to suggest that alterations in the dietary intake of vitamin K can lead to variable anticoagulation response to warfarin. We hypothesize that a low and erratic intake of dietary vitamin K is responsible, at least in part, for the variable response to warfarin in patients with unstable control of anticoagulation.

Twenty-six patients with unstable and twenty-six with stable control of anticoagulation completed dietary records of all foods and drinks consumed on a daily basis for 2 consecutive weeks. Dietary fat was also analyzed due to its role in vitamin K absorption and bioavailability. The two groups were matched for age, gender and primary reason for anticoagulation.

The mean daily intake for unstable and stable patients during the study period was 29.09 ± 17.14 µg and 76.10 ± 40.23 µg respectively. The logarithm of the intake of vitamin K was consistently and significantly lower in the unstable patients than in the stable patients over the 2 week period (5.90 ± 0.43 µg vs 6.85 ± 0.50 µg; P < 0.001; 95% CI 0.685, 1.207). Changes in vitamin K intake between weeks 1 and 2 of the study were negatively correlated with changes in International Normalized Ratio (INR) amongst the unstable patients. However this failed to reach significance (r = –0.25; P = 0.22). There was neither a significant difference in fat intake (56.2 ± 11.4 g vs 66.4 ± 24.0 g; P = 0.06; 95%CI –0.33, 20.86) nor a significant correlation between fat and vitamin K intake (unstable patients: r = 0.178; P = 0.38, stable patients: r = 0.075; P = 0.72) in unstable and stable patients.

The results showed that patients with unstable control consume lower amounts of vitamin K than patients with stable control of anticoagulation. It is possible that supplementation with oral vitamin K can lessen the impact of variable dietary intake of vitamin K on anticoagulation response to warfarin, leading to a more stable and safer warfarin therapy.