The long-term relationship between dietary pantothenic acid (vitamin B5) intake and C-reactive protein concentration in adults aged 40 years and older.

Jung S, Kim MK, Choi BY.

Health Care Research Department, Korea Institute for Health and Social Affairs, Sejong, South Korea; Institute for Health and Society, Hanyang University, Seoul, South Korea; Department of Preventive Medicine, College of Medicine, Hanyang University, Seoul, South Korea.

BACKGROUND AND AIMS: Low-grade inflammation, represented by minor C-reactive protein (CRP) elevation, has a critical role in the early stages of atherosclerosis, and pantothenic acid (PA) may have an antioxidant effect in inflammatory process. However, the long-term relationship between PA intake and CRP has not yet been studied. The objective of the present study was to evaluate the long-term relationship of PA intake to CRP concentration in healthy adults aged 40 years or older living in a rural area of South Korea.

METHODS AND RESULTS: A total of 908 subjects (349 men, 559 women) with repeated data on dietary PA intake and CRP concentration were included in the final analysis. To represent the long-term effect of PA intake, both PA intake at the baseline and average PA intake were used as the exposure, and CRP concentration at the third visit and its change from the baseline to the third visit were used as the outcome. After adjustment for potential confounders, a significant inverse relationship between PA intake and CRP concentration at the third visit was observed (P for trend = 0.001, β = -0.07 (P-value = 0.001) for PA baseline; P for trend = <0.0001, β = -0.11 (P-value = 0.0004) for PA average (baseline, 2nd, 3rd)). Higher PA intake was significantly related to lower or attenuated increase in CRP concentration (P for trend = 0.002, β = -0.24 (P-value = 0.002) for PA baseline; P for trend = 0.001, β = -0.35 (P-value = 0.001) for PA average (baseline, 2nd, 3rd)).

CONCLUSIONS: In conclusion, dietary PA intake was inversely related to subsequent CRP concentration in both men and women aged 40 years or older in South Korea.