

ORIGINAL RESEARCH COMMUNICATION

Plasma pyridoxal-5-phosphate and future risk of myocardial infarction in the European Prospective Investigation into Cancer and Nutrition Potsdam cohort^{1,2,3}

Jutta Dierkes, Cornelia Weikert, Kerstin Klipstein-Grobusch, Sabine Westphal, Claus Luley, Matthias Möhlig, Joachim Spranger and Heiner Boeing

¹ From the Institute of Clinical Chemistry and Biochemistry, University Hospital Magdeburg, Magdeburg, Germany (JD, SW, and CL); the Department of Epidemiology, German Institute of Human Nutrition, Nuthetal, Germany (CW, KK-G, and HB); the School of Public Health, University of the Witwatersrand, Parktown, South Africa (KK-G); and the Department of Clinical Nutrition, German Institute of Human Nutrition, Nuthetal, Germany (MM and JS)

Background: Retrospective studies indicate that low concentrations of plasma pyridoxal-5-phosphate (PLP) are associated with cardiovascular events; however, few prospective studies of this issue have been conducted.

Objective: We therefore investigated whether PLP concentrations are independently associated with myocardial infarction (MI) in the European Investigation into Cancer and Nutrition (EPIC) Potsdam Study.

Design: After exclusion of prevalent MI or stroke, incident cases of MI were identified among 26 761 participants (aged 35–65 y at baseline). The current analysis is based on a nested case-cohort study consisting of a control group of 810 subjects without MI or stroke at baseline and a case group of 148 subjects who had an MI during a mean follow-up period of 6.0 ± 1.5 y. Cox proportional hazard models were used to evaluate the association between plasma PLP and risk of MI.

Results: In the age- and sex-adjusted analysis, subjects in the highest quintile of PLP had a significantly reduced risk of MI (hazard ratio: 0.50; 95% CI: 0.29, 0.83). Adjustment for either low-grade inflammation or smoking diminished this association. When both low-grade inflammation and smoking were adjusted for, the association was abolished. In addition, adjustment for established risk factors also abolished the association between PLP and risk of MI.

Conclusion: These findings from a prospective German cohort study suggest that PLP is not independently associated with risk of MI.

Key Words: Cardiovascular disease • epidemiology • vitamin B-6 • inflammation • smoking

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Mortality and Cardiovascular Events in Patients Treated With Homocysteine-Lowering B Vitamins After Coronary Angiography: A Randomized Controlled Trial
JAMA, August 20, 2008; 300(7): 795 - 804.
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A. T Vasilaki, D. C McMillan, J. Kinsella, A. Duncan, D. S. J O'Reilly, and D. Talwar
Relation between pyridoxal and pyridoxal phosphate concentrations in plasma, red cells, and white cells in patients with critical illness
Am. J. Clinical Nutrition, July 1, 2008; 88(1): 140 - 146.
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