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1: Atherosclerosis. 2002 Feb;160(2):465-9.

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Association between low serum enterolactone and increased plasma F2-isoprostanes, a measure of lipid peroxidation.

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Evidence suggests that low serum enterolactone concentration might be an independent risk factor for acute coronary events. Enterolactone is a lignan, which is formed by intestinal bacteria from precursors in plant foods. Due to the biphenolic structure of enterolactone, it could act as an antioxidant and through this contribute to cardiovascular health. The aim of this study was to test the hypothesis that a low serum enterolactone concentration is associated with increased in vivo lipid peroxidation, assessed by plasma F2-isoprostane concentrations. We investigated this association in a subset of participants in 'The Antioxidant Supplementation in Atherosclerosis Prevention' (ASAP) study. Out of 256 male participants a subsample of 100 consecutive men from baseline was selected for F2-isoprostane assays. The mean serum enterolactone concentration was 16.6 nmol/l and that of F2-isoprostanes 29.6 ng/l. The correlation coefficient for association between serum enterolactone and F2-isoprostane concentrations was -0.30 ($P < 0.003$). Plasma F2-isoprostane levels decreased linearly across quintiles of serum enterolactone concentration ($P = 0.008$ for a linear trend). In a multivariate model, enterolactone persisted as a significant predictor after adjustment for vitamins and other variables, with the strongest associations with F2-isoprostanes. Our present data suggest that low serum enterolactone concentration is associated with enhanced in vivo lipid peroxidation in men.

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