

Abstract

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Changes in markers of cobalamin status after cessation of oral B-vitamin supplements in elderly people with mild cobalamin deficiency.

Eussen SJ, Ueland PM, Hiddink GJ, Schneede J, Blom HJ, Hoefnagels WH, van Staveren WA, de Groot LC.

Department of Human Nutrition, Wageningen University, Wageningen, The Netherlands.

OBJECTIVE AND METHODS: Mildly cobalamin-deficient elderly were supplemented with 1000 microg cobalamin (group C, n=34), 1000 microg cobalamin with 400 microg folic acid (group CF, n=31) or a placebo (n=30) for 6 months. Participants provided one single blood sample 3, 5 or 7 months after cessation of supplementation to monitor early changes in plasma concentrations of cobalamin, holotranscobalamin (holoTC) and methylmalonic acid (MMA).

RESULTS: At the end of supplementation (groups C+CF), one participant met our criteria for mild cobalamin deficiency, as did 13, 14 and 43% of the participants assessed at respectively 3, 5 and 7 months post-supplementation. Cobalamin and holoTC declined on average with 47 and 56% relative to concentrations at the end of supplementation for the group assessed at 7 months post-supplementation. Essentially similar declines were observed for those participants assessed at 3 and 5 months post-supplementation. Mean MMA concentrations increased by 15% (P=0.07) in those participants assessed at 3 and 5 months post-supplementation, and increased by 50% (P=0.002) in those participants assessed at 7 months post-supplementation.

CONCLUSION: Considering MMA as a sensitive tissue marker for cobalamin status, oral supplementation may afford adequate cobalamin status for a period of up to 5 months after cessation in the majority of participants.

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