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Letter to the Editor

Harm With High Levels of Serum B12 in Elderly Persons

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A recent report from the Newcastle 85+ study (1) presents the not unexpected finding that high plasma levels of total homocysteine (tHcy) were associated with increased cardiovascular events among elderly persons. However, it also reported the very surprising finding that high serum B12 levels were also associated with increased cardiovascular events. Figure 3 in the article shows a marked increase in cardiovascular risk with serum B12 levels above 600 pmol/L. However, it seems likely that such high serum B12 levels were due to vitamin supplements, most probably with cyanocobalamin.

The Figure 1 shows the distribution of serum B12 among outpatients aged ≥85 years referred with transient ischemic attack or minor stroke to our urgent transient ischemic attack clinic. The reference range for serum B12 for our hospital is 145–569 pmol/L, so serum B12 levels >600 pmol/L are unphysiological, and therefore probably due mainly to B12 supplements.

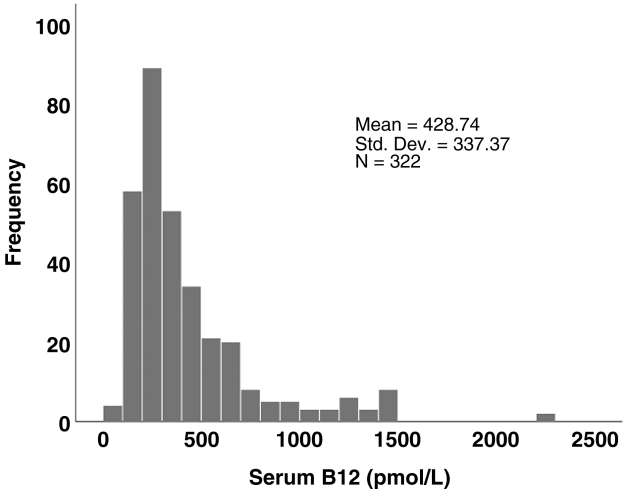

Figure 1. Distribution of serum B12 among patients age ≥ 85 years referrred with transient ischemic attack (TIA) or minor stroke. Very few patients had serum B12 levels >600 pmol/L. These patients were probably taking B12 supplements.

It has become apparent that the reason that B vitamin supplements intended to lower plasma tHcy were not efficacious for stroke prevention in the early randomized trials was that harm from cyanocobalamin among study participants with renal impairment obscured the benefit among partipants with good renal function (2). At age ≥80 years, the average estimated glomerular filtration rate is <60 (3).

Among persons with impaired renal function, B vitamin therapy that includes cyanocobalamin is harmful, doubling the risk of cardiovascular events (4,5). It seems likely, therefore, that the harm observed was due to supplementation with cyanocobalamin. We should be using methylcobalamin instead of cyanocobalamin.

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