

Letter to the Editor

Plant stanol ester consumption did not interfere with serum vitamin D level in humans

Goncalves et al. published an interesting research article entitled 'Phytosterols can impair vitamin D intestinal absorption in vitro and in mice' in *Molecular Nutrition & Food Research* in 2011, volume 55, S303–S311 [1]. Phytosterols and phytostanols have interested scientists since the 1950s as cholesterol lowering agents. Sophisticated and extensive metabolic studies have been performed during these decades also in humans, the number of which have progressively increased after invention of phytostanol ester in the 1990s and later on phytosterol ester, which made it possible to develop food products that actively reduced serum cholesterol levels and lowered the risk of coronary heart disease. Being destined to long-term consumption in humans, the safety issues including the metabolism of fat soluble vitamins have been assayed in detail. The ample clinical studies have demonstrated no effects on serum vitamin D level, and consequently both the US and European food safety authorities have acknowledged phytostanol and phytosterol consumption as safe, and these statements have not needed to be challenged.

The authors refer in the Discussion part to our one-year clinical study, in which serum vitamin D status was analysed quantitating 25(OH)cholecalciferol in 51 subjects consuming 3 g/day of sitostanol as ester in margarine and in 49 controls consuming the same margarine without added sitostanol [2]. The analyses were performed during home diet and after 12 months of the intervention. No vitamin D was added to the test margarines. The authors mention that a close look at the study revealed a significant lowering effect of sitostanol ester enriched-margarine on vitamin D plasma level after a long term treatment in humans.

This statement is erroneous. In our study, serum vitamin D level in the sitostanol group was at home diet 65.7 ± 3.7 nmol/l and during sitostanol consumption, called the treatment value, 75.2 ± 3.6 nmol/l, $p < 0.05$. Accordingly, in the sitostanol group the treatment value was significantly increased compared with the baseline home value and not decreased. The sitostanol and control group behaved similarly. There were significant differences in the absolute vitamin D concentrations between the groups, but the increase in serum vitamin D concentrations during the study were similar in both groups. Thus, the only conclusion that can be made is that phytostanol consumption does not interfere with serum vitamin D level in humans and this has been confirmed also in other studies [3–6].

The author has declared no conflict of interest.

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