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Editorial

Vitamin D Screening of High-Risk Patients Should be Part of Regular Care in Family Practice

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Editorial

Worldwide, Vitamin D deficiency is a common phenomenon with a high prevalence in Europe. There is still a lot of debate about the optimal serum vitamin D level. The Health Council of the Netherlands still refers to the target value of 30 nmol/L for people up to 70 years of age. For people who are older than that, the reported target value is >50 nmol/L [1]. A large Danish primary care study has found an association between mortality and serum vitamin D levels in the form of a "J or U-curve". Especially the lowest (<10 nmol/L) but also the highest serum levels (>140 nmol/L), have been shown to be associated with higher mortality, with the lowest mortality associated with serum levels of approximately 50-60 nmol/L [2]. Results obtained from our own meta-analysis has shown that patients with a serum vitamin D <50 nmol/L when admitted to the ICU have an increased chance of developing infections, sepsis, a longer stay in ICU and a higher mortality rate [3].

Considering this short exposition, it is indefensible that the Health Council of the Netherlands considers target values >30 nmol/L for all people under 70 years of age to be sufficient. According to my perspective, the cut-off values should be the same as those of the American Institute of Medicine, the joint German, Austrian and Swiss recommendations and the 'CBO consensus osteoporosis and fall prevention´. According to these recommendations, the cut-off level should be a minimum of 50 nmol/L for all ages. For this reason, it is necessary to map the prevalence of vitamin D shortage, <50 nmol/L, in the Dutch population. The Dutch National Institute for Public Health and the Environment, RIVM has emphasized the importance of such a survey, asserting that research concerning the vitamin D status of the Dutch population should be a priority [4]. Various other guidelines also advise vitamin D screening in high-risk patients [5,6]. So, it is time for family physicians to start screening their patients. But why is this hardly ever done?

The first reason usually put forward is that screening is too expensive in comparison to what is gained by it. This view is based on studies that did not show significant advantages to attaining higher vitamin D levels. Regrettably, many of these studies were underpowered and included patients without vitamin D deficiency. Determining the serum vitamin D level of an individual patient costs, on average, 15 Euros. When we compare this cost to the possibility of, for instance, reducing ICU stay with one day – a saving of some 1500 Euros – this reduces the cost aspect to a very weak argument.

The second reason often heard is the fear of overdosing on vitamin D. However, vitamin D intoxication as a result of supplementation is extremely rare [7].

In the third place, the imprecision of the various automated vitamin D tests is often mentioned. As for any test, accuracy and reproducibility depend to a great extent on the experience of the individual administering the test [8]. Wielders et al. studied the stability of vitamin D. Blood samples were stored in different ways; at -20°C, at 4°C, at room temperature, in the dark and exposed to usual artificial light conditions. The concentrations of vitamin D in the diverse samples were shown to be very stable under all conditions. On the basis of this study, it is safe to state that vitamin D levels can correctly be determined in blood collection containers that have been kept at room temperature for a maximum of three days, and even seven days when stored at 4°C [9].

In my opinion it is not necessary to routinely screen all patients, but is necessary to do so in case of high-risk patients. I define high-risk to include all patients with osteoporosis, malabsorption syndrome, obesity, diabetes type 2, metabolic syndrome, chronic use of corticosteroids/HIV-medication and anticonvulsants, renal insufficiency, hyperparathyroidism , all elderly patients (above age 70), women who wear veils and people with a dark skin.

Summarizing: Screen high-risk patients; use a standardized test for vitamin D screening in all Dutch family physician practices. Correct a vitamin D deficiency and use the target level of at least 50 nmol/L for all patients.

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