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Comment: A previous observational study found that supplementation with 2000 IU per day of vitamin D during the first year of life was associated with a reduced risk of developing type 1 diabetes. However, another observational study found no association between vitamin D intake or serum 25-hydroxyvitamin D levels and risk of developing type 1 diabetes. The present study showed that vitamin D supplementation resulted in a protective immunological profile and slowed the decline of residual beta-cell function in patients with new-onset type 1 diabetes who had significant residual beta-cell function. The new study therefore supports the concept that vitamin D may be useful for both the prevention and early treatment of type 1 diabetes.

Gabbay MA et al. Effect of cholecalciferol as adjunctive therapy with insulin on protective immunologic profile and decline of residual beta-cell function in new-onset type 1 diabetes mellitus. *Arch Pediatr Adolesc Med*. 2012;166:601–607.

Oral Niacinamide for Actinic Keratosis

Seventy-six healthy individuals (aged 48 to 90 years) with sun-damaged skin and at least 4 actinic keratosis on the face, scalp, or arms were randomly assigned to receive, in double-blind fashion, 500 mg of niacinamide once or twice a day or placebo for 4 months. All patients were encouraged to use daily sunscreen. After 4 months, compared with placebo, niacinamide significantly reduced the number of actinic keratoses by one-third. The beneficial effect of niacinamide was also statistically significant after 2 months, but was somewhat less pronounced than after 4 months. Compared with placebo, niacinamide decreased the incidence of new skin cancers (basal cell or squamous cell carcinoma) by 76% ($p = 0.01$) and decreased the number of patients who developed at least 1 skin cancer by 86%. The higher dosage of niacinamide appeared to be slightly more effective than the lower dosage; however, because of the small sample size, firm conclusions about a dose-response relationship could not be drawn.

Comment: Basal cell and squamous cell carcinomas are among the most common types of cancer. Photoimmunosuppression (suppression of immune function by sunlight) plays a key role in the transformation of actinic keratoses into skin cancers. Niacinamide has been show to prevent photoimmunosuppression in humans and photocarcinogenesis in mice. In the present study, oral administration of niacinamide markedly decreased the incidence of skin cancers in people with actinic keratoses. Further research is needed to determine whether larger dosages of niacinamide would be more effective than the amounts used in this study. Although there have been occasional reports of hepatotoxicity from large doses of niacinamide (3000 mg per day or more), doses such as 500 mg 3 or 4 times per day are usually well tolerated and rarely cause elevations of liver enzymes.

Surjana D et al. Oral nicotinamide reduces actinic keratoses in phase II double-blinded randomized controlled trials. *J Invest Dermatol*. 2012;132:1497–1500.

What Is a Normal Vitamin D Level for African Americans?

Serum 25-hydroxyvitamin D (25[OH]D) and parathyroid hormone levels were measured in 1258 Caucasian and 423 African American men and women participating in the Multicenter Osteoarthritis Study. Among Caucasians, the mean parathyroid hormone level was significantly higher when serum 25(OH)D levels were less than 23 ng/ml than when 25(OH)D levels were 23 to 32 ng/ml. However, among African Americans, the mean parathyroid hormone level did not increase significantly (compared with the parathyroid hormone level seen with 25(OH) D levels of 23-32 ng/ml) until 25[OH]D levels were less than 15 ng/ml. The 25(OH)D threshold at which no further change in the parathyroid hormone level was observed was approximately 20 ng/ml in African Americans and approximately 30 ng/ml in Caucasians.

Comment: As serum 25(OH)D levels increase, parathyroid hormone levels tend to decline. Researchers have postulated that vitamin D sufficiency occurs when serum 25(OH)D reaches a level at which further increases do not further decrease the parathyroid hormone level. Using that criterion, the results of the present study suggest that the lower limit of the serum 25(OH)D references range should be lower for African Americans (approximately 20 ng/ml) than for Caucasians (approximately 30 ng/ml).

The findings of this study are consistent with those of a previous observational study that examined the association between 25(OH)D levels and fracture risk among women from different racial and ethnic groups. Among white women, 25(OH)D levels > 20 ng/ml, as compared with lower levels, were associated with a significant decrease in fracture risk. In contrast, among African American women, 25(OH)D levels ≥ 20 ng/ml, as compared with lower levels, were associated with a significant increase in fracture risk. Similarly, among Asian women, 25(OH)D levels ≥ 30 ng/ml were associated with a significant increase in fracture risk, after adjusting for vitamin D-binding protein.

Although observational studies do not prove causality, the available evidence suggests that for African Americans, Asians, and possibly other racial and ethnic groups, it may be inappropriate to prescribe progressively larger doses of vitamin D for the purpose of achieving the serum 25(OH)D level that is considered normal for Caucasians.

Wright NC et al. Defining physiologically "normal" vitamin D in African Americans. *Osteoporos Int*. 2012;23:2283–2291.

Vitamin D Is Less Safe for Some Than for Others.

Three children (ages 2 weeks to 33 months) presented with hypercalcemia and hypervitaminosis D (25-hydroxyvitamin D [25(OH)D] level > 75 ng/ml), associated with treatment of documented or suspected vitamin D-deficiency rickets. The doses of vitamin D used were within accepted guidelines and were believed to be safe. The 2-week-old girl had an initial 25(OH)D level of 21 ng/ml. She developed hypercalcemia and hypervitaminosis D after receiving 1400 IU per day of vitamin D for 2 months. The 33-month-old African American girl had an initial 25(OH)D level of 5 ng/ml. She developed