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Vitamin D and its role in allergic disease.

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Abstract

In Western countries, the incidence of atopy and allergic diseases is high and further rising. While genetic factors certainly play a role, epigenetic or even nutritional factors might also be important in the pathogenesis of allergies. Vitamin D - the 'sunshine hormone' - exerts profound effects on both adaptive and innate immune functions involved in the development and course of allergic diseases. As also the incidence of vitamin D insufficiency is surprisingly high in the general population, clinical and experimental studies have started to investigate if correcting vitamin D levels [measured as serum 25 hydroxy vitamin D -25(OH)D] is beneficial or even protective in patients with allergies or children at risk. This review highlights current data on the effects of vitamin D on the allergy-mediating immune system and the vitamin D status in atopic patients. Furthermore, the benefits and risks of vitamin D supplementation during pregnancy, childhood and in adults with respect to the development and course of allergic disease are discussed.

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