

Primary hyperparathyroidism, vitamin D metabolism and 25(OH) D levels



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Biography

Xiangbing Wang, MD is an internal medicine specialist in new brunswick, NJ and has over 37 years of experience in the medical field. He graduated from human normal university, college Of medicine medical school in 1983. He is affiliated with robert wood johnson university hospital. He has indicated that he accepts telehealth appointments. Be sure to call ahead with Dr. Wang to book an appointment.



Abstract

Primary hyperparathyroidism (PHPT) and vitamin D deficiency are common disorders which are interrelated. The epidemiology of PHPT has changed over the years and differs in the developing vs the developed world. Over the past 50 years, the presentation of PHPT has shifted in the Western world to a more asymptomatic disease form but classical symptomatic presentation with severe vitamin D deficiency remains a majority in developing countries. Increased rates of screening of 25(OH) D levels and supplementation of vitamin D have changed the prevalence of PHPT and have added norm calcemic PHPT (NPHPT) to the spectrum. A disturbed vitamin D metabolism seems to play a role in the pathogenesis which is thought to exacerbate the severity of PHPT. The mechanisms behind low total 25OHD levels in PHPT patients are likely multifactorial including 1). In developing countries, the traditional dressing limits sun exposure and the prevalent vegetarian diet leads to nutritional deficiency of vitamin D; 2) Enhancing conversion of 25(OH)D to 1,25(OH)₂ D and 24,25(OH)₂ D; 3). Elevated IPTH decreases vitamin D binding protein (DBP) production in the liver which in turn leads to decreased total 25(OH) D levels. Although, standard measurements and guidelines only include total 25OHD levels, a few studies show that total 25(OH) D levels may not be a reliable indicator of vitamin D status in PHPT patients. The levels of 25(OH) D to rule out vitamin D deficiency in PHPT and the role of free 25(OH) D levels in PHPT are not fully defined. Although it has been validated that supplementation of vitamin D should be done in PHPT patients with lower total 25(OH) D levels, the threshold to supplement to, in relation with the severity of PHPT and degree of vitamin D deficiency is still unknown. Nutritional replacement of vitamin D although recommended in all forms of PHPT especially before parathyroidectomy, the threshold to replace to is currently not well defined and should be based off the severity of PHPT. Further research is needed to study the pathogenesis of hypovitaminosis D, DBP and the optimal total 25(OH) D levels in PHPT patients.

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