Vitamin D and Heart Health

Our grandmothers understood the significance of vitamin D. At the turn of the 20th century, more than 80% of children living in industrialized cities in North America and Europe developed rickets. In response, many households turned to cod liver oil supplementation for the vitamin D they knew it contained. We often hear of this former practice from our patients, who are surprised to learn that it held a purpose beyond their perceived torment.

Fast forward one century later; vitamin D is the darling of nutritional investigation. A growing body of evidence has identified vitamin D deficiency (blood levels below 30 ng/ml) as a potential widespread risk factor for cardiovascular disease. Cardiovascular disease is the most common cause of mortality and morbidity, accounting for nearly 30% of deaths worldwide. A recently published retrospective study of over 10,000 individuals spanning a five year period found increased mortality, obesity, diabetes mellitus and cardiovascular disease in patients with vitamin D deficiency, and a better survival rate for patients receiving vitamin D supplementation - significant in those with a documented deficiency.

Vitamin D receptors are widely distributed throughout the cardiovascular system including vascular smooth muscle, endothelium and cardiomyocytes. Vitamin D is a steroid hormone with the primary function of maintaining calcium homeostasis by enhancing the intestinal absorption of calcium. Maintained blood calcium levels results in suppressed parathyroid hormone (PTH) activity and is the mechanism by which much of vitamin D's cardiovascular benefits are attributed, as PTH is involved in many mechanisms of action that increase the risk for heart disease. Inhibiting PTH prevents mobilization of calcium from bone which may reduce the risk of calcification of heart valves and coronary vessel walls and decreases the risk of developing hypertension. Additionally, decreasing PTH may limit the hypertrophic response, specifically left ventricular hypertrophy. Vitamin D has also been shown to control renin activity, thus modulating the release of angiotensin II, subsequently preventing blood pressure from rising and reducing the risk of arrhythmias.

Are you and your patients at increased risk for cardiovascular disease? February is National Heart Month, a great time to promote the importance of Vitamin D and heart health. Labrix' 25-OH Vitamin D blood spot test is a great place to start!

Be sure to register for this week's webinar, How to implement a profitable hormone balancing program into your practice, presented by guest speaker Dr. Gregory Zengo. The country is not running out of

hormonally imbalanced patients any time soon. In fact, hormone imbalance these days affects far more people than women going through "the change". Whether you are interested in simply adding hormone balancing to your practice, or wanting to make a focus of this important clinical area, attending this webinar will give you valuable ideas and insights on how to move forward. To register today, click here.

Resources

- Small, Roy. Vitamin D and the Heart. The Journal of Lancaster General Hospital. Winter 2006; Vol 1, No. 3: 99-102.

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- Holick, Michael F. The Vitamin D Epidemic and its Health Consequences. J. Nutr. November 1, 2005; vol.138, no 11: 27395-27485.

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- McCarty, Mark F. Nutritional Modulation of Parathyroid Hormone Secretion May Influence Risk for Left Ventricular Hypertrophy. Medical Hypotheses. Volume 64, Issue 5, 2005. 1015-1021.