

Correspondence

Selenium Deficiency and Hypothyroidism

One of the recent, very popular Health Newsletters was recommending treating clinically hypothyroid patients with trials of desiccated thyroid tablets. Generally, it is understood that thyroid function tests are unreliable and even morning axillary temperatures have been found to be as predictive as blood tests.

The article advised that clinically hypothyroid patients be given desiccated thyroid tablets in gradually increasing doses until the optimum result/dose was obtained. This advice goes back many years when Dr. Paul Starr of USC recommended (personal communication) that patients be given increasing doses till optimum results were obtained. And this might require six, seven and eight grains of thyroid tablets. Essentially the same regimen was suggested by Dr. William Howard, Senior Vice President and Medical Director of Washington Center in Washington D.C. (personal communication) at our Phoenix Surgical Society Symposium in January 1993.

More recently I was introduced to the concept of Underconversion Hypothyroidism in the diagnosis of subclinical hypothyroidism by Dr. Jeffrey Bland in the February 1993 issue of Preventative Medicine Update. In many cases of patients suspected of clinical hypothyroidism, laboratory tests (T-4, T-3, TSH, FTI) will be within normal range. However, if the results are scrutinized, it will be found that the T-4 might be a high normal but the T-3 will be low or very low normal. TSH generally can be within normal range or slightly elevated. These patients do not have

primary hypothyroidism but have what is called underconversion hypothyroidism.

In this condition, there is insufficient T-3 fraction of the thyroxin which is the active fraction in contradiction to the T-4 which we were taught in the past to be the active part of the thyroid hormone. It has been shown that today due to mineral deficiency, particularly selenium, T-4 is not converted to T-3 in sufficient amount. Selenium deficiency leads to decreased T-3 in the tissue by inhibiting the Deiodinase activity and the conversion of T-4 to T-3. Selenium depletion also leads to increase in T-4. *{The American Journal of Clinical Nutrition, February 1993 Supplement}*

Since being introduced to underconversion hypothyroidism, it is gratifying to see so many of my patients being cured of their low thyroid condition in the face of so-called normal thyroid laboratory tests. Many times just the addition of selenium (200-400 mcg daily) is enough to correct the hypothyroid condition. It goes without saying that good nutrition is a prerequisite along with mineral supplementation, particularly zinc and copper.

Isn't it nice to be able to correct hypothyroid condition with selenium? Besides being a normalizer of thyroid condition, it is a powerful antioxidant, an anti-cancer agent and a strong anti-cataract agent. Who can ask for more?

Takeshi Hayashida, M.D.
Gardena Valley Medical Center
1300 West 155th Street
Gardena, California 90247