



THYROID AND PREGNANCY

Iodine use does not affect the small changes in free thyroxine (FT₄) levels during late pregnancy

BACKGROUND

Iodine is needed to make the thyroid hormones, of which thyroxine (T₄) is the main hormone. In regions of iodine deficiency, the lack of iodine in the diet can lead to hypothyroidism. This is especially concerning during pregnancy when an increase in thyroid hormone production is needed. This increase can tip a woman that had normal thyroid function before pregnancy into hypothyroidism. This is important because some studies have shown that low levels of T₄ in pregnant women may be associated with brain development problems in their babies. Low thyroxine levels may result from low iodine in the diet and/or represent normal changes that occur in pregnancy. This study was done to see if iodine use during early pregnancy is able to prevent the small decreases in T₄ levels that occur during later pregnancy. All of the women had normal thyroid hormone levels at the beginning of pregnancy.

THE FULL ARTICLE TITLE

Brucker-Davis F et al Iodine supplementation throughout pregnancy does not prevent the drop in FT₄ in the second and thirds trimesters in women with normal initial thyroid function. *Eur Thyroid J*. July 16, 2013 [Epub ahead of print].

SUMMARY OF THE STUDY

This was a study of 111 pregnant women in France during 2007-2008. Women were assigned to take either a multivitamin containing 150 mcg iodine daily or a placebo pill. Iodine supplementation was begun in the first trimester and continued until 3 months after delivery. The researchers measured iodine levels in the mothers' urine and FT₄ (free thyroxine) levels in mothers' blood throughout the study. Notably, there were no measurements done related to the mothers' babies, including their urine iodine, thyroid hormone or brain development tests.

In both groups, women's FT₄ levels decreased by about 20% during late pregnancy. Iodine use did not correct the small drop in FT₄ levels among the women. However, it does improve the low iodine levels of the pregnant women and prevented the rise of a thyroid protein in the blood called thyroglobulin which, if elevated, shows lack of iodine in the diet.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

In this study, the drop in FT₄ in later pregnancy is likely related to the normal changes of pregnancy and not decreased iodine in the diet, since the levels of other thyroid hormone and proteins also fell. Better tests to more accurately measure FT₄ during pregnancy are needed. Also, the study's results may not apply to pregnant women who have abnormal thyroid blood tests at baseline or those with positive thyroid antibodies.

Importantly, this study does not argue against iodine supplementation in pregnant women. Even mildly low iodine in the diet during pregnancy has been associated with poor measures of brain development. Iodine supplementation at the recommended levels is safe. The American Thyroid Association recommends that women thinking about pregnancy, who are pregnant and who breastfeed take a multivitamin containing 150 mcg of iodine once a day.

— Angela Leung, MD

ATA THYROID BROCHURE LINKS

Iodine Deficiency: <http://www.thyroid.org/iodine-deficiency>

Thyroid and Pregnancy: <http://www.thyroid.org/thyroid-disease-and-pregnancy>

Hypothyroidism: <http://www.thyroid.org/what-is-hypothyroidism>

continued on next page



THYROID AND PREGNANCY, continued

ABBREVIATIONS & DEFINITIONS

Iodine: an element found naturally in various foods that is important for making thyroid hormones and for normal thyroid function. Common foods high in iodine include iodized salt, dairy products, seafood and some breads.

Hypothyroidism: a condition where the thyroid gland is underactive and doesn't produce enough thyroid hormone. Treatment requires taking thyroid hormone pills.

Thyroglobulin: a protein made only by thyroid cells, both normal and cancerous. When all normal thyroid tissue is destroyed after radioactive iodine therapy in patients with thyroid cancer, thyroglobulin can be used as a thyroid cancer marker in patients that do not have thyroglobulin antibodies.

The ATA is Getting Social



Twitter

www.twitter.com/@thyroidfriends



Facebook

www.facebook.com/ThyroidAssociation

Connect with us!