



THYROID AND PREGNANCY

Pregnant women benefit from beginning iodine supplementation long before pregnancy

BACKGROUND

Iodine is a mineral that we get from our diet that is important for making thyroid hormones and for normal thyroid function. It is important in adults as well as in developing babies. Worldwide, iodine deficiency is the most common cause of hypothyroidism. In the United States we rarely see this problem since our diet usually contains adequate amounts of iodine. Iodine and thyroid hormones are critical to normal development of the baby's brain and nervous system. The baby gets its supply of iodine from the mother's diet. During pregnancy, mothers require more iodine. Prior studies have shown that mothers who use salt with extra iodine in it for two years prior to becoming pregnant are at low risk to develop hypothyroidism during the pregnancy. The current study examined the effects of varying amounts of dietary iodine on the mothers' thyroid function during pregnancy.

THE FULL ARTICLE TITLE:

Moleti M. et al Maternal thyroid function in different conditions of iodine nutrition in pregnant women exposed to mild-moderate iodine deficiency: an observational study. Clin Endocrinol (Oxf) 2011;74:762-8.

SUMMARY OF THE STUDY

Three groups were studied: one group (I-supplement) included 168 women who began using iodized salt upon becoming pregnant or shortly before and received 150 micrograms iodine supplementation per day upon becoming pregnant; another group (I-salt) included 105 women who had regularly used iodized salt for at least 2 years prior to becoming pregnant and a third group (No-I) included 160 women who took no extra iodine in their salt or during their pregnancy.

The women in the I-supplement group were found to have a higher average TSH levels than the other two groups. However, similar numbers of patients with an increased TSH above the normal range in both the I-supplement and the No-I groups; a lower number of women in the I-salt group had an elevated TSH. A total of 20% of the women in the No-I group had low T₄ levels (20%), which was over 2-fold greater than the I-salt (9.5%) and the I-supplement (8.5%) groups .

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

Women who wait until becoming pregnant to begin taking extra iodine may experience an increase in TSH, perhaps due to the abrupt increase in taking iodine. The regular use of additional iodine intake during pregnancy decreases the risk of low free T₄ levels during pregnancy. The study suggests that women considering becoming pregnant should make sure that they are using iodized salt perhaps as long as 2 years before they conceive in order to ensure normal thyroid tests during pregnancy. Given that many pregnancies are unplanned, perhaps all women who may become pregnant should take extra iodine to ensure normal thyroid tests during any pregnancy that may occur.

— Ruth Belin, MD

ATA THYROID BROCHURE LINKS

Thyroid and Pregnancy: http://thyroid.org/patients/patient_brochures/pregnancy.html

Hypothyroidism: http://thyroid.org/patients/patient_brochures/hypothyroidism.html

Thyroid Function Tests: http://thyroid.org/patients/patient_brochures/function_tests.html

Iodine Deficiency: http://thyroid.org/patients/patient_brochures/iodine_deficiency.html

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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.

Thyroxine (T₄): the major hormone secreted by the thyroid gland. Thyroxine is broken down to produce Triiodothyronine which causes most of the effects of the thyroid hormones. Free T₄ is the portion of T₄ that is not attached to other proteins in the body and is available to enter the various tissues that need thyroid hormone.

Thyroid Stimulating Hormone (TSH): produced by the pituitary gland that regulates thyroid function; also the best screening test to determine if the thyroid is functioning normally.