

**THYROID AND PREGNANCY****Prenatal screening for thyroid disease****BACKGROUND**

Thyroid hormone is essential for normal brain development in babies during pregnancy. Early in pregnancy, the baby gets thyroid hormone only from the mother. Untreated severe hypothyroidism in the mother has been shown to cause worse pregnancy outcomes and result in developmental defects in the baby. These effects can be prevented if the mother is treated with thyroid hormone early in pregnancy. The effects of mild hypothyroidism on pregnancy and the development of the baby is less clear. Despite these data, screening pregnant women for thyroid problems is controversial. This study evaluated the pregnancy outcomes of women with hypothyroidism who were identified and treated in a prenatal screening program.

THE FULL ARTICLE TITLE

Bryant SN et al An analysis of population-based prenatal screening for overt hypothyroidism. *Am J Obstet Gynecol* 2015;213:565.e1-6. Epub July 8, 2015.

SUMMARY OF THE STUDY

A total of 26,518 pregnant women were screened for thyroid problems with a blood test at their first prenatal visit. Those with serum TSH >3.0 mU/L and FT₄ <0.9 ng/dl were referred for confirmatory testing in a hospital-based laboratory. Overt hypothyroidism, defined as an increased TSH and a low FT₄, was diagnosed and treated. Women with an increased TSH but normal FT₄ (subclinical hypothyroidism) were not treated. Pregnancy outcomes were compared in: (a) women with overt hypothyroidism that were treated, (b) women with subclinical hypothyroidism that were not treated and (c) women with normal thyroid function.

Of the 26,518 pregnant women, a total of 284 women (1%) had abnormal initial values that suggested hypothy-

roidism and 232 (82%) underwent repeat testing. Overt hypothyroidism was confirmed in 47 women (0.2% of those initially screened) and thyroid hormone therapy was started. Pregnancy outcomes of women with treated hypothyroidism were similar to those of women with normal thyroid function. Higher rates of pregnancy-related high blood pressure were identified in the 182 women with subclinical hypothyroidism, but only in the women with an initial TSH >4.5 mU/L, as compared with women with normal thyroid function.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

The identification and treatment of overt hypothyroidism in pregnant women results in pregnancy outcomes similar to those of women with normal thyroid function as well as those with untreated subclinical hypothyroidism. Women with subclinical hypothyroidism and an initial serum TSH >4.5 mU/L are at risk of high blood pressure during pregnancy. These data suggest that screening for thyroid dysfunction during pregnancy can be effective in improving pregnancy outcomes in women with undiagnosed hypothyroidism. Further, this study suggests that subclinical hypothyroidism may not adversely affect pregnancy outcomes.

— Alan P. Farwell, MD, FACE

ATA THYROID BROCHURE LINKS

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

Hypothyroidism: <http://www.thyroid.org/hypothyroidism/>

Thyroid Function Tests: <http://www.thyroid.org/thyroid-function-tests/>

ABBREVIATIONS & DEFINITIONS

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

Subclinical Hypothyroidism: a mild form of hypothyroidism where the only abnormal hormone level is an increased TSH. There is controversy as to whether this should be treated or not.



THYROID AND PREGNANCY, continued

Overt Hypothyroidism: clear hypothyroidism an increased TSH and a decreased T₄ level. All patients with overt hypothyroidism are usually treated with thyroid hormone pills.

TSH: thyroid stimulating hormone — produced by the pituitary gland that regulates thyroid function; also

the best screening test to determine if the thyroid is functioning normally.

Thyroxine (T₄): the major hormone produced by the thyroid gland. T₄ gets converted to the active hormone T₃ in various tissues in the body.



 **MAY**
INTERNATIONAL THYROID
AWARENESS MONTH

THE AMERICAN
THYROID ASSOCIATION