



THYROID AND PREGNANCY

Thyroid function in pregnancy

BACKGROUND

Thyroid hormone is important during pregnancy for normal development of the baby. Both hypothyroidism and hyperthyroidism in the mother can affect pregnancy outcomes as well as the baby's development. Thyroid hormone requirements increase during pregnancy and many women with hypothyroidism on thyroid hormone replacement require an increased dosage during this time. Although there have been a number of studies linking abnormal thyroid function to increased risk of pregnancy complications, universal screening for thyroid disease during pregnancy is still debated. These authors sought to examine thyroid function during early pregnancy in Danish women and correlate the levels with the diagnosis of thyroid disease before or after pregnancy.

THE FULL ARTICLE TITLE

Andersen SI and Olsen J. Early Pregnancy Thyroid Function Test Abnormalities in Biobank Sera from Women Clinically Diagnosed with Thyroid Dysfunction Before or After Pregnancy. *Thyroid*. 2017. 27(3): 451-459.

SUMMARY OF THE STUDY

These investigators conducted study of pregnant women enrolled in the Danish National Birth Cohort who gave birth to a single baby between 1997 and 2003. All women had thyroid function tests (TSH and Free T₄) performed in early pregnancy (testing ranged between 5 and 19 weeks gestation) and saved in a Biobank for analysis. Some women were included as part of a random sample of all participants in the study and some were included on the basis of having known thyroid disease before the early pregnancy blood sample. The authors examined women who never received a diagnosis of thyroid disease, women who had a pre-existing diagnosis and women who were diagnosed after the early pregnancy blood sample up to 5 years after delivery. They categorized the early pregnancy blood sample as either consistent with hyperthyroidism or hypothyroidism, subclinical or overt.

Results indicated that thyroid dysfunction was common in women during early pregnancy. In women without known thyroid disease before or after the pregnancy, approximately 12% had abnormal thyroid function tests during early pregnancy. This percentage was higher in women with known thyroid disease (34.8%), particularly those who were currently receiving thyroid treatment during pregnancy (55.7%). In women who were identified later as developing thyroid disease after the early pregnancy blood sample and up to 5 years post delivery, approximately one third (36.6%) had evidence of unidentified thyroid dysfunction in early pregnancy. In other words, women who were diagnosed with thyroid disease after the pregnancy had high rates of unidentified abnormal thyroid function during the pregnancy.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

Thyroid dysfunction is common during early pregnancy, especially in women with known thyroid disease. Over 50% of Danish women being treated for thyroid disease during pregnancy had abnormal thyroid function tests in early pregnancy, highlighting the need for close monitoring of women with thyroid disease during pregnancy to ensure they have normal thyroid hormone levels while on treatment. Women with thyroid disease that was diagnosed after pregnancy showed high rates of abnormal thyroid levels during the prior pregnancy, indicating some thyroid dysfunction. The long term effects of this unidentified thyroid hormone abnormality on pregnancy outcome requires further research.

— Whitney W. Woodmansee, MD

ATA THYROID BROCHURE LINKS

Hypothyroidism (Underactive): <https://www.thyroid.org/hypothyroidism/>

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



THYROID AND PREGNANCY, continued

ABBREVIATIONS & DEFINITIONS

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.

Overt Hypothyroidism: clear hypothyroidism an increased TSH and a decreased T_4 level. All patients with overt hypothyroidism are usually treated with thyroid hormone pills.

Hyperthyroidism: a condition where the thyroid gland is overactive and produces too much thyroid hormone. Hyperthyroidism may be treated with antithyroid meds (Methimazole, Propylthiouracil), radioactive iodine or surgery.

Subclinical Hyperthyroidism: a mild form of hyperthyroidism where the only abnormal hormone level is a decreased TSH.

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.

