



THYROID AND PREGNANCY

Pregnancy and perinatal outcome among hypothyroid mothers

BACKGROUND

Hypothyroidism is common in women of reproductive age. About 1% of women will have known hypothyroidism before getting pregnant and another 0.5% of women will be diagnosed with hypothyroidism during pregnancy. Overt hypothyroidism (low T₄ and high TSH) has known adverse effects on pregnancy outcome including a higher risk of miscarriage and lower IQ in offspring. The effect of less severe hypothyroidism (high TSH but normal T₄, subclinical hypothyroidism) varies with some studies, but not all, showing increased rates of caesarean section, labor induction and ICU admission of the babies. This study took advantage of national registries in Finland where nearly all women receive free maternity care and deliver at national hospitals and data is collected. The goal of the study was to look at pregnancy complications in a large group of patients and evaluate whether consistent use of thyroid hormone in hypothyroid mothers effected the outcomes.

THE FULL ARTICLE TITLE

Turunen S et al Pregnancy and perinatal outcome among hypothyroid mothers: a population-based cohort study. *Thyroid* 2019 29:135–141

SUMMARY OF THE STUDY

The investigators studied all pregnancies with a single baby in Finland from 2004-2013. There were 16,364 mothers with a diagnosis of hypothyroidism and 550,860 mothers who were not hypothyroid. They used the extensive Finnish Medical Birth Registry that collects data on mothers and newborns within 7 days of delivery, the Finnish Malformation Registry to identify congenital

malformations and the Prescription Register to track thyroid hormone use. Women were considered to be hypothyroid if they had a diagnosis of hypothyroidism or if they purchased thyroid medication within 3 mo prior to pregnancy or during pregnancy.

For the whole group, about 3% of the mothers had hypothyroidism complicating pregnancy. Among these women, 95.8% purchased levothyroxine at some time during the pregnancy, but only 37.5% purchased medication consistently throughout pregnancy. There was higher risk of adverse outcomes in all the hypothyroid mothers, including high blood pressure during pregnancy, severe pre-eclampsia (high blood pressure and kidney disease), gestational diabetes and caesarian section. The mothers who filled levothyroxine prescriptions regularly throughout pregnancy did not have an increased risk for high blood pressure or severe pre-eclampsia. There were more babies born early in the mothers with hypothyroidism, but not in those hypothyroid mothers who filled their levothyroxine prescription consistently. There was a slight increase in congenital malformations in babies born of hypothyroid mothers.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study confirms many previous studies documenting the adverse effect of hypothyroidism on pregnancy and perinatal outcomes, most of which, but not all are reversed by regular thyroid hormone administration. This study supports the importance of taking thyroid medication during pregnancy when indicated.

— Marjorie Safran, MD

ATA THYROID BROCHURE LINKS

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

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

Thyroid Hormone Treatment: <https://www.thyroid.org/thyroid-hormone-treatment/>





THYROID AND PREGNANCY, continued

ABBREVIATIONS & DEFINITIONS

Euthyroid: a condition where the thyroid gland is working normally and producing normal levels of thyroid hormone.

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.

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

Congenital: Condition that exists at birth.

Thyroid hormone therapy: patients with hypothyroidism are most often treated with Levothyroxine in order to return their thyroid hormone levels to normal.



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