



## THYROID AND PREGNANCY

# Subclinical hypothyroidism and thyroid antibodies are risk factors for miscarriage

### BACKGROUND

Thyroid hormone is important for the normal development of a baby during pregnancy. Some studies have shown that even a mildly underactive thyroid (subclinical hypothyroidism) in pregnant women between 11-13 weeks of pregnancy is a risk factor for miscarriage. Other studies have shown that having high levels of thyroid antibodies in the blood, which are associated with one form of hypothyroidism, during pregnancy can also increase the risk of miscarriage. This study was done to see if subclinical hypothyroidism and/or autoimmune thyroid disease in pregnant women during an earlier period of pregnancy, from 4-8 weeks of pregnancy, are similarly associated with higher rates of miscarriage.

### THE FULL ARTICLE TITLE

Liu H et al Maternal subclinical hypothyroidism, thyroid autoimmunity and the risk of miscarriage: a prospective cohort study. *Thyroid*. August 2, 2014 [Epub ahead of print].

### SUMMARY OF THE STUDY

The authors studied over 3300 pregnant women beginning in early pregnancy (4-8 weeks of pregnancy) from multiple hospitals and clinics in China starting in 2012. The women were grouped according to the severity of subclinical hypothyroidism and/or whether autoimmune thyroid disease was present and followed to see if there was a difference in the rates of miscarriage (defined by loss of the fetus before 20 weeks gestation). From blood tests, women were considered as having normal thyroid function, subclinical hypothyroidism, autoimmune thyroid disease, or both subclinical hypothyroidism and autoimmune thyroid disease.

A total of 110 (3.5%) of the women had a miscarriage, with the women who had subclinical hypothyroidism,

autoimmune thyroid disease, or both subclinical hypothyroidism and autoimmune thyroid disease having the highest risks, compared to women with normal thyroid function. In addition, women with subclinical hypothyroidism and autoimmune thyroid disease tended to have miscarriages earlier during their pregnancies, compared to women with normal thyroid function.

### WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study shows that subclinical hypothyroidism and autoimmune thyroid disease during early pregnancy are both risk factors for having a miscarriage. It confirms several previous studies in which these are also important risk factors for pregnant women during later pregnancy. The findings suggest that trying to achieve and maintain normal thyroid hormone levels as early on in pregnancy may lessen the risk of miscarriage. Guidelines by several medical societies recommend prescribing thyroid hormone in pregnant women with hypothyroidism in order to target normal thyroid function blood tests.

Although one study has shown that thyroid hormone given to pregnant women with normal thyroid function but with autoimmune thyroid disease may decrease the odds of having a miscarriage, additional studies (one of which is underway in the United Kingdom) are needed to confirm this. Thus, at present, thyroid hormone is not routinely prescribed in pregnant women with normal thyroid function who have autoimmune thyroid disease.

— Angela Leung, MD

### ATA THYROID BROCHURE LINKS

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

Thyroid Function Tests: <http://www.thyroid.org/blood-test-for-thyroid>

### 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.



## **THYROID AND PREGNANCY, continued**

**Autoimmune thyroid disease:** a group of disorders that are caused by antibodies that get confused and attack the thyroid. These antibodies can either turn on the thyroid (Graves' disease, hyperthyroidism) or turn it off (Hashimoto's thyroiditis, hypothyroidism).

**Miscarriage:** this occurs when a baby dies in the first few months of a pregnancy, usually before 22 weeks of pregnancy.