



## THYROID AND PREGNANCY

### Increasing levothyroxine doses early in pregnancy is associated with a lower risk for pregnancy loss in hypothyroid women

#### BACKGROUND

In pregnancy, appropriate treatment of hypothyroidism is very important because low levels of thyroid hormone in the mother may harm her baby or even cause pregnancy loss or miscarriage. Higher levels of thyroid hormone are needed during pregnancy and, in women with normal thyroid function, the thyroid gland increases the production of thyroid hormone to meet this increased need. In hypothyroid women, this often means that the dose of Levothyroxine needs to be increased during pregnancy. Many endocrinologists advise pregnant women to take a higher dose of Levothyroxine as soon as pregnancy is confirmed and to come in to have blood tests for TSH more often to ensure that the level remains normal. This study was done to evaluate the effect of increasing Levothyroxine dose in preventing pregnancy loss in women with hypothyroidism.

#### THE FULL ARTICLE TITLE

Maraka S et Effects of increasing levothyroxine on pregnancy outcomes in women with uncontrolled hypothyroidism. *Clin Endocrinol (Oxf)*. August 3, 2016 [Epub ahead of print].

#### SUMMARY OF THE STUDY

In this study, 96 hypothyroid women who were treated in Mayo Clinic in Rochester, Minnesota from 2011 to 2013 were included. They were between 18 to 45 years old and all were treated with Levothyroxine before becoming pregnant and all had a blood test for TSH in first trimester of pregnancy with level of more than 2.5 mIU/L (the goal level of TSH in first trimester of pregnancy is less than 2.5).

The information about the age, body mass index, medical conditions, ethnicity, level of education, employment, smoking and use of illegal drugs, complications and course

of pregnancy was obtained by reviewing medical charts. The patients were divided into two groups; group 1 consisted of 85 women who had immediate increase of Levothyroxine dose after the thyroid blood test in first trimester of pregnancy showed abnormal TSH and group 2 consisted of 11 women who did not have any adjustment in levothyroxine dose. The rate of miscarriage and death of baby after 22nd week of pregnancy was compared between the two groups. Women who did not have any adjustment in Levothyroxine dose had a higher level of TSH in their last pregnancy blood test; 36% of women in this group had lost their pregnancy due to miscarriage. The rate of pregnancy loss was 2.4% in women who took a higher dose of thyroid hormone after pregnancy. No difference was found between the two groups in the rate of other pregnancy complications.

#### WHAT ARE THE IMPLICATIONS OF THIS STUDY?

The study confirms that the dose requirements for Levothyroxine increase during pregnancy and shows that an increase in the Levothyroxine dose early in pregnancy may prevent some cases of pregnancy loss and miscarriage. The result of this study is important for young women and their physicians and re-affirms the need for close monitoring of thyroid levels during pregnancy.

— Shirin Haddady, MD

#### ATA THYROID BROCHURE LINKS

Hypothyroidism:

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

Thyroid Hormone Treatment:

<http://www.thyroid.org/thyroid-hormone-treatment/>

Thyroid Disease and Pregnancy:

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

**THYROID AND PREGNANCY, continued****ABBREVIATIONS & DEFINITIONS**

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

**Levothyroxine (T<sub>4</sub>):** the major hormone produced by the thyroid gland and available in pill form as Synthroid™, Levoxyl™, Tyrosint™ and generic preparations.

**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.

**Body-Mass Index (BMI):** a standardized measure of obesity calculated by dividing the weight in kilograms by the square of the height. A normal BMI is 18.5-24.9, overweight is 25–30 and obese is >30.

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

