



THYROID AND PREGNANCY

Thyroid status and risk of miscarriage

BACKGROUND

Inadequately treated hypothyroidism has been associated with negative pregnancy outcomes. Thyroid hormone requirements increase with pregnancy and many women with pre-existing hypothyroidism need an increase in their thyroid hormone doses in the first trimester of pregnancy. The Endocrine Society recommends that TSH levels be maintained between 0.2-2.5 mU/L in the first trimester of pregnancy and between 0.3-3 mU/L in the remaining trimesters. The aim of this study was to examine the relationship between TSH levels in early pregnancy and the risk of adverse pregnancy outcomes.

THE FULL ARTICLE TITLE

Taylor PN et al. TSH levels and risk of miscarriage in women on long-term levothyroxine: a community-based study. *J Clin Endocrinol Metab.* July 24, 2014 [Epub ahead of print].

SUMMARY OF THE STUDY

This study was an analysis of a historical primary care database of women treated with thyroid hormone during pregnancy in the United Kingdom. Women were included in the analysis if they were between the ages of 18-45 years and had thyroid hormone treatment started for primary hypothyroidism at least 6 months before pregnancy. A total of 1013 pregnancies were identified in 7978 women treated with thyroid hormone for primary hypothy-

roidism. Approximately 63% of pregnant women on thyroid hormone replacement had TSH levels above the recommended level of 2.5mU/L during the first trimester. These women had a higher risk of miscarriage during pregnancy than women whose TSH values were below 2.5mU/L. The risk of miscarriage increased with increasing TSH. Women with a TSH between 4.5-10 mU/L or TSH greater than 10 mU/L had an increased risk of miscarriage of 1.8 or 3.95 times respectively, compared to women who had a normal TSH (0.2-2.5mU/L) during early pregnancy. Women with a TSH between 2.51-4.5mU/L did not appear to have an increased risk of miscarriage.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

Many women with hypothyroidism on thyroid hormone replacement therapy have TSH levels above the desired 2.5 mU/L level in early pregnancy. Higher TSH levels (TSH levels > 4.5 mU/L) are associated with increased risk for miscarriage and should be avoided in early pregnancy.

— Whitney Woodmansee, MD

ATA THYROID BROCHURE LINKS

Hypothyroidism: <http://www.thyroid.org/what-is-hypothyroidism>

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

ABBREVIATIONS & DEFINITIONS

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.

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