



## THYROID AND PREGNANCY

### Thyroid disorders are common in pregnant women without risk factors for thyroid disease

#### WHAT IS THE STUDY ABOUT?

Thyroid disease during pregnancy may be associated with a number of complications including miscarriage, preterm delivery, brain abnormalities in the children and postpartum thyroid inflammation in the mother. There are known risk factors for developing thyroid disease during pregnancy, including: a family history of autoimmune thyroid disease, presence of a goiter, signs and symptoms of thyroid disease, known thyroid dysfunction, history of type 1 diabetes mellitus or other autoimmune diseases, prior neck irradiation and previous miscarriages or preterm deliveries. Pregnant women with these known risk factors are easily screened for thyroid disease with blood tests of TSH and thyroid peroxidase antibody (TPO AB, a marker of autoimmune thyroid disease). Treatment of women with abnormal levels of TSH or TPO AB can be treated with thyroid hormone to decrease the risk of complications. However, screening all pregnant women for the presence of thyroid disease regardless of risk factors is controversial and is not currently done on a routine basis. The goal of this study was to determine how often abnormal TSH and/or TPO AB levels are found in women who have no risk factors for thyroid disease.

#### THE FULL ARTICLE TITLE:

Horacek J et al Universal screening detects two-times more thyroid disorders in early pregnancy than targeted high-risk case finding. *Eur J Endocrinol* 2010;163:645-50. EJE-10-0516 [pii];10.1530/EJE-10-0516 [doi].

#### WHAT WAS THE AIM OF THE STUDY?

The aim of this study was to determine how often abnormal TSH and/or TPO AB levels are found in women who have no risk factors for thyroid disease.

#### WHO WAS STUDIED?

The study group included 400 women in the Czech Republic at weeks 9-11 of pregnancy.

#### HOW WAS THE STUDY DONE?

Blood tests for thyroid hormone, TSH and TPO AB were measured in all of the pregnant women. The women were

treated with thyroid hormone (levothyroxine) if either the TSH was increased or the TPO AB was positive. All women with abnormal tests also had an evaluation for thyroid risk factors.

#### WHAT WERE THE RESULTS OF THE STUDY?

An increased TSH was found in 41 (10.3%) women and the TPO AB was positive in 33 (8.3%). Overall, 16.3% of women had at least one abnormality. A total of 49 women were treated with Levothyroxine. Of these 49 women, 29 (55%) had no risk factors for thyroid disease.

#### HOW DOES THIS COMPARE WITH OTHER STUDIES?

Several studies have shown similar results, including a study in 2007 as well as one that was reported in an earlier issue of this journal ([Braunstein May 2010 Negro et al. Universal screening versus case finding for detection and treatment of thyroid hormonal dysfunction during pregnancy. J Clin Endocrinol Metab 2010](#)).

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

Thyroid disorders are common in pregnant women and frequently occur in women without risk factors. The only way to identify this latter group of women at risk is through the routine screening of all pregnant women. Further studies are needed to determine if pregnancy outcomes can be improved by the identification of these women without thyroid risk factors.

— Angela Leung, MD

#### ATA THYROID BROCHURE LINKS

Thyroid Disease and Pregnancy: [http://www.thyroid.org/patients/patient\\_brochures/pregnancy.html](http://www.thyroid.org/patients/patient_brochures/pregnancy.html)

Thyroiditis: [http://www.thyroid.org/patients/patient\\_brochures/thyroiditis.html](http://www.thyroid.org/patients/patient_brochures/thyroiditis.html)

Hypothyroidism: [http://www.thyroid.org/patients/patient\\_brochures/hypothyroidism.html](http://www.thyroid.org/patients/patient_brochures/hypothyroidism.html)

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## THYROID AND PREGNANCY, continued

### ABBREVIATIONS & DEFINITIONS

**TPO antibodies** — these are antibodies that attack the thyroid instead of bacteria and viruses, they are a marker for autoimmune thyroid disease, which is the main underlying cause for hypothyroidism and hyperthyroidism in the United States.

**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.

**Goiter** — a thyroid gland that is enlarged for any reason is called a goiter. A goiter can be seen when the thyroid is overactive, underactive or functioning

normally. If there are nodules in the goiter it is called a nodular goiter; if there is more than one nodule it is called a multinodular goiter.

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

**Levothyroxine** — the major hormone produced by the thyroid gland and available in pill form as Levoxyl™, Synthroid™, Levothroid™ and generic preparations.

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