

**THYROID AND PREGNANCY****Variation of TSH in the normal range or thyroid autoimmunity is not associated with pregnancy loss or miscarriage****BACKGROUND:**

Lots of research has been done already about the effect of severe and obvious thyroid disease on pregnancy. Severe thyroid disease in the form of overactive (hyperthyroidism) or underactive (hypothyroidism) thyroid problems may cause abnormal monthly periods, difficulty getting pregnancy, miscarriage and pregnancy loss. The most common cause of thyroid problems in the United States is autoimmune thyroid disease, where the body makes antibodies that attack the thyroid to cause hyperthyroidism or hypothyroidism. TPO antibody is one of the marker of autoimmune thyroid disease and previous research studies have shown that high levels of TPO antibodies may increase the chance of miscarriage in pregnant women.

This present study has investigated the possibility of pregnancy loss, miscarriage and a longer time needed to become pregnant in women who do not have severe thyroid disease but may have slightly abnormal TSH levels and positive TPO antibodies before their pregnancies.

THE FULL ARTICLE TITLE

Plowden TC et al, Subclinical hypothyroidism and thyroid autoimmunity are not associated with fecundity, pregnancy loss or live birth. *J Clin Endocrinol Metab.* March 29, 2016 [Epub ahead of print].

SUMMARY OF THE STUDY

The study was done in the USA. The information about more than 1000 women who already participated in a different clinical trial from 2007 to 2011 was included in this study. The women in this study were 18 to 40 years of age and all had one or two miscarriages before joining the study, but none of them had any difficulty

becoming pregnant. None had severe thyroid disease. The information about the thyroid related blood tests was obtained from the clinical trial that these women had participated before. The tests were done before they become pregnant and they were TSH, thyroid hormone, Thyroglobulin antibody and TPO antibody.

The result of the study showed that slight changes in TSH or high level of TPO antibody and Thyroglobulin antibody in women who do not have a severe or noticeable thyroid problem does not increase the possibility of pregnancy loss. It also did not take longer for these women to become pregnant and the number of alive babies born from these mothers also was not different.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study shows that women with high level of thyroid antibodies and/or a slightly higher TSH level than average population do not have an increase in miscarriage or difficulty getting pregnant. These findings are somewhat different from some of the past studies and should be followed by other large research studies. For now these results show that healthy women with slightly higher TSH which is still within the normal range of most laboratories may not have a higher chance of pregnancy loss and may not benefit from taking thyroid hormone supplements.

— Shirin Haddady, MD

ATA THYROID BROCHURE LINKS

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

Thyroid Function Tests: <http://www.thyroid.org/thyroid-function-tests/>

ABBREVIATIONS AND DEFINITIONS:

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).

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



THYROID AND PREGNANCY, continued

Hyperthyroidism: a condition where the thyroid gland is overactive and produces too much thyroid hormone. Hyperthyroidism may be treated with antithyroid meds (Methimazole, Propylthiouracil), radioactive iodine or surgery.

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

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.

Thyroglobulin 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.

