



THYROID AND PREGNANCY

The effect of thyroid hormone replacement therapy on risk of preterm delivery in pregnant women with subclinical hypothyroidism and negative thyroid peroxidase antibodies.

BACKGROUND

Normal thyroid function in the mother is important during pregnancy. It is clear that overt hypothyroidism in the mother (high TSH, low FT₄) is associated with poor pregnancy outcomes, including preterm delivery (delivery before the usual pregnancy term of 40 weeks). It is less clear that subclinical hypothyroidism (high TSH only) is associated with poor outcomes, although there are studies that suggest that preterm delivery is increased. At present, expert endocrinologists have not yet reached agreement regarding the treatment of women with subclinical hypothyroidism during pregnancy. Areas of disagreement include the level of TSH in which to start thyroid hormone treatment during pregnancy and whether anti-thyroid peroxidase (TPO) antibody positivity should impact this decision. Since TPO antibodies are a marker of autoimmune thyroid disease, if they are present, it is more likely that the increased TSH represents something abnormal. To try to study the effect of an increased TSH alone on pregnancy outcomes, this study sought to determine whether thyroid hormone replacement therapy would be beneficial for reducing preterm delivery in pregnant women with subclinical hypothyroidism and negative TPO antibodies.

THE FULL ARTICLE TITLE

Nazarpour S, et al. Effects of levothyroxine on pregnant women with subclinical hypothyroidism, negative for thyroid peroxidase antibodies. *J. Clin Endocrinol. Metab.* 2018. 103 (3): 926-935.

SUMMARY OF THE STUDY

These investigators performed a trial of thyroid hormone replacement therapy in pregnant women with subclinical hypothyroidism and negative TPO antibodies. They recruited 2 groups of TPO antibody negative pregnant women: those with subclinical hypothyroidism (366

women) and thyroid with normal thyroid function (1092 women). Subclinical hypothyroidism was defined as a TSH >2.5-10 mIU/L with a normal free thyroxine index. They randomized the women with subclinical hypothyroidism to receiving thyroid hormone or not and compared them to control women with normal thyroid function. The main outcome measurement was rate of preterm delivery.

Results of the initial analysis did not show any significant reduction in the rate of preterm delivery in women with subclinical hypothyroidism treated with thyroid hormone compared to untreated women. However, they repeated the analysis using a TSH cut off of >4 mIU/L and found a benefit in terms of reduced preterm deliveries in the women receiving thyroid hormone. In other words, thyroid hormone treatment did not result in a significant reduction in preterm delivery in TPO antibody negative women with TSH > 2.5, but did appear to benefit women if a TSH cut off >4 mIU/L was used. These results support the newest (2017) American Thyroid Association guidelines for thyroid hormone treatment of subclinical hypothyroidism in pregnancy in which a TSH \geq 4mIU/L is a recommended cut off for consideration of thyroid hormone therapy.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

These results suggest that pregnant women with subclinical hypothyroidism with a TSH \geq 4 mIU/L may benefit from thyroid hormone replacement therapy to reduce rates of preterm delivery regardless of the TPO antibody status. These data support a TSH cutoff of \geq 4 mIU/L for starting therapy rather than the lower cutoff of TSH < 2.5mIU/L.

— Whitney W. Woodmansee MD





THYROID AND PREGNANCY, continued

ATA THYROID BROCHURE LINKS

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

Hypothyroidism (Underactive): <https://www.thyroid.org/hypothyroidism/>

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

ABBREVIATIONS & DEFINITIONS

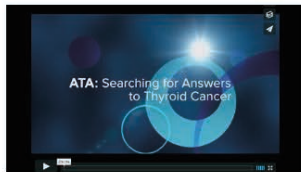
Hypothyroidism: a condition where the thyroid gland is underactive and doesn't produce enough thyroid hormone. Treatment requires taking thyroid hormone pills.

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.

Overt Hypothyroidism: clear hypothyroidism an increased TSH and a decreased T₄ level. All patients with overt hypothyroidism are usually treated with thyroid hormone pills.

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.

Watch how your donations help find answers to thyroid cancer



The American Thyroid Association (ATA) – Searching for Answers to Thyroid Cancer
April 17, 2016



13



Differentiated Thyroid Cancer – Support ATA's ongoing Research
April 17, 2016



19



Medullary Thyroid Cancer – Help the ATA Find a Cure
April 17, 2016



10



Anaplastic Thyroid Cancer – Support Research for Treatments
April 17, 2016



11

www.thyroid.org/donate/

