



## THYROID AND PREGNANCY

### Severe hypothyroidism in the mother is associated with possible autism in their babies

#### BACKGROUND

Thyroid hormone is essential for normal brain development in babies during pregnancy. There has been a report that low thyroid levels (hypothyroidism) in babies is possibly associated with the development of autism. Prior studies have shown that low thyroid levels in the mother during pregnancy has been associated with brain abnormalities in the baby. This study was done to see if severe hypothyroidism in the mother during pregnancy is also associated with autism in the baby.

#### THE FULL ARTICLE TITLE

Román GC et al. Association of gestational maternal hypothyroxinemia and increased autism risk. *Ann Neurol*. August 13, 2013 [Epub ahead of print].

#### SUMMARY OF THE STUDY

A total of 8,790 pregnant women in the Netherlands were enrolled in the study between 2002-2006. Of these, 4,039 women provided data on whether autism was present in their children at age 6 years old. The pregnant women's free T<sub>4</sub>, TSH, and TPO antibodies were assessed at 18 weeks of the pregnancy.

A total of 80 children were diagnosed with probable autism. Severe hypothyroidism in the mother was

associated with almost 4-times the risk of the baby being diagnosed with autism as compared to women with normal thyroid tests. Babies born to women with low thyroid hormone levels but a normal TSH did not have an increased risk of autism. TPO antibodies in the mother were not associated with autism either.

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

This study suggests that severe hypothyroidism in early pregnancy is associated with a diagnosis of autism in children. This is an important study because a controversial question is whether or not women should be routinely screened for thyroid problems during pregnancy. This study further demonstrates that there may be a need for universal screening for hypothyroidism during pregnancy as there can be adverse outcomes later in life. Further studies need to be performed to provide more evidence for routine screening.

— Heather Hofflich, DO

#### ATA THYROID BROCHURE LINKS

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

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

#### ABBREVIATIONS & DEFINITIONS

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

**Thyroxine (T<sub>4</sub>):** the major hormone produced by the thyroid gland. T<sub>4</sub> gets converted to the active hormone T<sub>3</sub> in various tissues in the body.

**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.

**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.