CLINICAL THYROIDOLOGY **FOR PATIENTS**

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THYROID AND PREGNANCY

Brain development may be entirely normal in children born to women with hypothyroidism who are treated during pregnancy

BACKGROUND

Thyroid hormone is essential for a baby's brain development even before birth. During early pregnancy the mother supplies thyroid hormone to the growing baby. Some studies suggest that children whose mothers had hypothyroidism during the first trimester of pregnancy had both a lower IQ and defects in psychological development later in childhood as compared to children of mothers with normal thyroid function. Still other studies show that these abnormalities are not seen when hypothyroidism in the mother is treated during pregnancy with thyroid hormone. The goal of the current study was to examine whether low levels of thyroid hormone in the mother during early pregnancy influences a child's brain development.

THE FULL ARTICLE TITLE:

Momotani N et al. Neurodevelopment in children born to hypothyroid mothers restored to normal thyroxine (T_4) concentration by late pregnancy in Japan: No apparent influence of maternal T_4 deficiency. J Clin Endocrinol Metab. February 8, 2012 [Epub ahead of print].

SUMMARY OF THE STUDY

The authors studied the children of 5 women who had new-onset hypothyroidism diagnosed during early pregnancy and who began thyroid hormone replacement between the 6th and 16th week of pregnancy. With treatment, 4 of the women were euthyroid by 20 weeks gestation, while the last remained mildly hypothyroid. Later, the psychological development of the children was measured between 25 months and 11 years of age using either the Tsumori-Inage Developmental Test or the Wechsler Intelligence Scale (IQ) for children. These scores were compared to those of siblings who were not exposed to hypothyroidism in their mother before birth. The authors found that there was no difference in developmental and IQ score between these two groups.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This was a very small study and it is difficult to draw conclusions; however, the results suggest that children whose mothers had hypothyroidism during early pregnancy do not develop brain deficits if their mothers are treated with thyroid hormone before the 20th week of pregnancy. These results are encouraging for expectant mothers suffering from hypothyroidism.

— Phillip Segal, MD

ATA THYROID BROCHURE LINKS

Hypothyroidism: http://thyroid.org/patients/patient_brochures/hypothyroidism.html

Thyroid and Pregnancy: http://thyroid.org/patients/patient_brochures/pregnancy.html

ABBREVIATIONS & DEFINITIONS

Euthyroid: a condition where the thyroid gland as working normally and producing normal levels of thyroid hormone.

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

Thyroid hormone therapy: patients with hypothyroidism are most often treated with Levothyroxine in order to return their thyroid hormone levels to normal.