



THYROID AND PREGNANCY

The placenta can store different amounts of iodine during pregnancy

BACKGROUND

Iodine is required for making thyroid hormones. The main source of iodine is the diet. If there is not enough iodine in the diet, as can be seen in iodine-deficient regions of the world, then hypothyroidism can develop. This is especially true during pregnancy where the demand for thyroid hormone increases and hypothyroidism can occur. Both iodine and thyroid hormone are very important for normal brain development of the baby during pregnancy. During pregnancy, the placenta forms both the barrier and the connection between the mother and the baby. This study was done to see if the placenta can store extra iodine in women who do not get enough iodine from their diets. The placental iodine levels of mothers in Ireland (where iodine intake is generally low) were compared to mothers in Iran (where iodine intake is generally adequate).

THE FULL ARTICLE TITLE:

Burns R et al. Is placental iodine content related to dietary iodine intake? *Clin Endocrinol* 2011. doi 0.1111/j.1365-2265.2011.04039.x

SUMMARY OF THE STUDY

Iodine levels in the placentas of 58 Irish women and 45 Iranian women were measured. The placentas were

obtained after the deliveries of healthy single babies. The placental iodine level in each mother was compared to her urine iodine level, which is the best estimate of the amount of iodine in the diet. The placental iodine levels varied widely, particularly among the Iranian women. However, the Iranian mothers (adequate iodine in the diet) had about double the amount of placental iodine than the Irish mothers (low iodine in the diet).

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

Mothers who diets are higher in iodine may be able to store more placental iodine. This suggests a new role of the placenta that was not known. It may be a way for the body to make sure that the baby receives enough iodine to make thyroid hormone during an important time of brain development.

—Angela Leung, MD

ATA THYROID BROCHURE LINKS

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

Iodine deficiency: http://thyroid.org/patients/patient_brochures/iodine_deficiency.html

ABBREVIATIONS & DEFINITIONS

Iodine: an element found naturally in various foods that is important for making thyroid hormones and for normal thyroid function. Common foods high in iodine include iodized salt, dairy products, seafood and some breads.

Placenta: a part of the uterus that supplies blood and nutrients to the developing baby during pregnancy. It

forms both a barrier and a connection between the mother and the baby.

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