



THYROID AND PREGNANCY

Appropriate dietary iodine intake during pregnancy and breastfeeding is important for both the mother and the baby

BACKGROUND

Dietary iodine is very important to maintain normal thyroid function. The thyroid takes up iodine from the blood and incorporates it into thyroid hormone. The iodine requirements of the mother increase during pregnancy and during breastfeeding. This is because of increased iodine loss in the urine in early pregnancy, increased need of the baby for iodine, passage of iodine from the mother to the baby in late pregnancy and passage of iodine into the breast milk during breastfeeding. Iodine deficiency in pregnant and breastfeeding women can have significant consequences in the developing baby, newborns and infants. There has been concern that pregnant and breastfeeding women do not get enough iodine in their diet even in iodine-sufficient areas, such as the United States and Japan. Therefore, the American Thyroid Association and The Endocrine Society currently recommend iodine supplementation during pregnancy and breastfeeding. Too much iodine intake may also cause thyroid problems in babies and infants. The best test for enough iodine in the diet is by measuring urinary iodine. The aim of this study was to examine the pattern of urinary iodine levels in mothers throughout pregnancy and to assess the influence of iodine status on thyroid function in the mother and the baby in an iodine-sufficient region.

THE FULL ARTICLE TITLE

Fuse Y et al Iodine status of pregnant and postpartum Japanese women: Effect of iodine Intake on maternal and neonatal thyroid function in an iodine-sufficient area. *J Clin Endocrinol Metab.* September 28, 2011 [Epub ahead of print].

SUMMARY OF THE STUDY

A total of 701 pregnant and 545 postpartum women without previous history of thyroid disease in Japan were studied between November 2005 and January 2007. A total of 722 newborns were also studied. The overall average urinary iodine concentration during pregnancy was 219 µg/L, higher than that in postpartum women

(135.0 µg/L). Overall 16.1% of pregnant women had a low urinary iodine concentration (<100 µg/L) while 22.2% had a high urinary iodine concentration (>500 µg/L). The mother's urinary iodine concentration increased from 220.0 µg/L in the first trimester to 258.0 µg/L in the second trimester and decreased to 137.0 µg/L after delivery. There were no significant correlations of the mother's UIC with thyroid levels in either the mother or baby during the pregnancy or postpartum period.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study showed that there is adequate dietary iodine supply during pregnancy in iodine-sufficient areas and this has a beneficial effect on the maternal and neonatal thyroid function. A decrease in urinary iodine following delivery was noted in this study, therefore, there is the need to continue iodine supplementation in the postpartum period in breastfeeding women.

— Alina Gavrilă, 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.

Postpartum: occurring in the period immediate after childbirth.

Infant: child between the ages of 1 month and 12 months.