

Interrelationships among serum thyroxine, triiodothyronine, reverse triiodothyronine, and thyroid-stimulating hormone in iodine-deficient pregnant women and their offspring: Effects of iodine supplementation

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Adaptation to iodine deficiency (ID) requires changes in thyroid and pituitary function that have been well characterized in animals. The present studies were undertaken to analyze the relationships between serum thyroid hormones and TSH concentrations in iodine-deficient pregnant women as well as their newborns. The broad range of iodine intake of the population studied, from very low to adequate, allowed us to describe quantitatively the relationships among iodine intake, thyroid hormones, and TSH. The interpretation of the data was supported by the effects that iodine supplementation had on these various hormones and is consistent with animal observations. About 250 pregnant women from an iodine-deficient area were studied. Fifty percent had a urinary iodine excretion of $50 \mu\text{g}/\text{g cr}$ or less; 25% had $50\text{--}100 \mu\text{g}/\text{g cr}$, and about 20% had $100\text{--}200 \mu\text{g}/\text{g cr}$. Baseline serum hormone concentrations on first examination (mean \pm SD) were: T4, $8.0 \pm 0.7 \mu\text{g}/\text{dl}$; T3 = $179 \pm 45 \text{ng}/\text{dl}$; rT3,