

Thyroxine (T4) and triiodothyronine (T3): Effects of iodine on the serum concentrations and disposal rates in subjects from an endemic goiter area

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In iodine-deficient subjects the T3 and T4 peripheral metabolism was studied. A diminished disposal rate of T4 and an increase in T3 were found. Serum concentrations and disposal rates of both hormones were determined before and after KI administration. A mean initial concentration of T3 of $0.54 \pm 0.014 \mu\text{g}/100 \text{ ml}$ decreased after 6 months of treatment to $0.20 \pm 0.029 \mu\text{g}/100 \text{ ml}$. T4 concentration increased from $5.3 \pm 0.82 \mu\text{g}/100 \text{ ml}$ to $11.2 \pm 1.68 \mu\text{g}/100 \text{ ml}$. Since T3 and T4 clearances were not modified by KI administration, disposal rates of both hormones changed in accordance with their serum concentration. The peripheral conversion of T4 to T3 is discussed and it is postulated that the changes observed could be the result of a modification of the thyroid secretion due to the chronic iodine deficiency. © 1974 by The Endocrine Society.