

Altered 3, 5, 3'-triiodothyronine thyroxine ratio in experimentally induced kwashiorkor and obesity in rats.

Abstract:

The plasma triiodothyronine (T3) and thyroxine (T4) ratios have been evaluated in kwashiorkor and diet-induced obese weaned rats. The concentrations of T3 and T4 were determined in plasma by radio-immunoassay. A significant decrease in T3 level in the order kwashiorkor < obese < control was observed. However T4 concentration was more elevated ($P < 0.01$) in the obese than the normal controls, while more significantly depressed ($P < 0.001$) in the kwashiorkor than in control animals. The T3/T4 ratio decreased in the order obese < kwashiorkor < control. It was concluded from these studies that kwashiorkor and diet-induced obesity not only interfere with the absolute concentration of the thyroid hormones but also alter the T3/T4 ratio. The altered T3 and T4 ratio perhaps contributes to the maintenance of the isoenergetic state rather than to the promotion of negative or positive energy balance in kwashiorkor and obese subjects respectively.