

LACTATION FAILURE IN MILD HYPOTHYROIDISM

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ABSTRACT

Thyroid hormones are essential for many body functions. Recently we found a primiparous woman with lactation failure and mild hypothyroidism. We like to report this case considering the rarity of this association.

INTRODUCTION

Hypothyroidism may present with various features e.g. somnolence, loss of memory, hoarseness of voice, dry rough skin, constipation, carpal tunnel syndrome, anorexia, menstrual irregularities and infertility.

CASE REPORT

A woman of age 30 yrs. came to our centre with the complaint of neck swelling. Her thyroid scan with $^{99m}\text{TcO}_4$ showed simple goitre grade 1b with rapid flow of radioisotope (fig.1) but serum levels of thyroid hormones were low ($T_3 = 0.8 \text{ nmol/L}$ $T_4 = 30 \text{ nmol/L}$) and thyrotropin (TSH) was raised (6.35 mIU/L). She told that she could not perform breast-feeding for her only child 2 years ago. She had no other complaint.

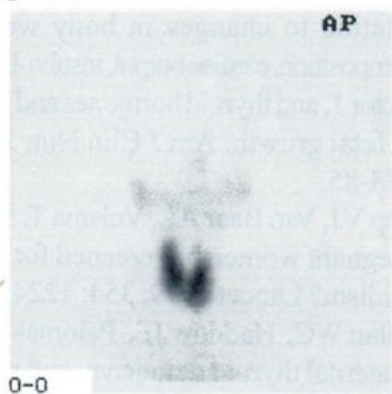


Fig.1 Thyroid scan showing simple goitre grade 1b.

DISCUSSION

Manifestations of adult hypothyroidism result in multisystems involvement. Common symptoms including goitre, weakness, coarse dry skin, lethargy, slow speech, eyelid edema and cold intolerance can be detected clinically. Less common manifestations are constipation, hair loss, coarse hair, peripheral edema, hoarseness, anorexia, thick tongue, memory impairment, skin pallor, bradycardia, slow relaxation of deep tendon areas, galactorrhea and psychiatric disturbance. In conditions of mild iodine deficiency,¹ the serum levels of free T_4 steadily decreases during gestation, while in iodine sufficiency there is only a slight (15%) decrease by the end of gestation. As a consequence serum thyroid-stimulating hormone (TSH) levels increase progressively resulting in 20-30% increase of thyroid volume during gestation, a figure twice higher than in conditions of normal iodine supply. In moderate iodine deficiency, the anomalies are of the same nature but more marked.²

Pregnant women comprise the most vulnerable population group with respect to iodine deficiency, because of its causative link with cretinism, an irreversible defect resulting from severe iodine deficiency in utero. For this reason, the elimination of cretinism is one of the most important aims and monitored indices of success of community iodine supplementation programs.³

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In humans, T_4 is already found in the first trimester coelomic fluid from the 6th week of gestational age, a long time before the onset of fetal thyroid function, which occurs at the 24th week of gestation. The number of T_3 (triiodothyronine) receptors and the amount of T_3 bound to the receptors in the whole brain increase about 10-fold between 10 and 18 weeks, also before the onset of fetal thyroid function. At term, about 20-50% of cord serum T_4 is still of maternal origin. Maternal screening of thyroid function should be considered seriously as a part of routine antenatal check up.

Administration of thyroxine to hypothyroid patients should preferably be on an empty stomach-concurrent administration with iron salts, antacids, calcium carbonate (including milk), sucralfate, cholestyramine and soy-based formulas may decrease absorption of thyroxine.⁴ While most patients take a daily dose, the long half-life of thyroxine lends itself to longer dosing intervals, such as alternate daily dosing. Once-weekly dosing is also possible for poorly compliant patients, although a slightly larger dose than seven times the normal daily dose may be required.⁵ Lof et al confirmed that serum concentrations of free T_3 and free T_4 decrease during pregnancy and observed a significant relation between changes in free T_3 and increases in basal metabolic rate (BMR) in gestational week 32.th It may be part of a regulation with the goal of maintaining an appropriate metabolic rate in the woman, perhaps by counteracting the stimulating effect on energy metabolism apparently associated with a high body fat content in pregnancy.⁶⁻¹²

American Thyroid Association (ATA) recommends:

1. Pregnant mothers with detectable thyroid autoantibodies and normal thyroid function are at an increased risk for miscarriage and for postpartum thyroid diseases.
2. Pregnant mothers with thyroid hormone deficiency or TSH elevation during pregnancy may have children at risk of mild impairment in their intellectual function and motor skills, and

3. Pregnant woman being treated with thyroid hormone replacement often require a 30-percent to 50-percent increase in their thyroid hormone doses.

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