

Triiodothyronine in pregnancy-Does it really harm the foetus?

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Background

Untreated hypothyroidism is associated with fetal loss, gestational hypertension, placental abruption, poor perinatal outcome and severe neurodevelopmental delay. The offsprings of women who have serum free thyroxine (T₄) concentrations in the lowest 10% of the reference range in the first trimester of pregnancy have significant neurodevelopmental delay.

Case report

- 36 years old female.
- Diagnosed with Primary hypothyroidism (10 years ago).
- Attended the antenatal clinic 2 years after diagnosis.
- Treated only with Liothyronine (T₃) although was advised to be on Levothyroxine during pregnancies.

Conclusions

- Literature search did not identify any cases where T₃ only was given during all trimesters of pregnancy.
- This case has clearly shown normal neurodevelopment in both siblings. Maternal serum T₃ concentrations were maintained within reference range while her serum T₄ concentrations were very low i.e <2 pmol/l in both pregnancies.
- These pregnancies may challenge current dogma regarding thyroid hormone treatment during pregnancy.

References

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Thyroid function and human reproductive health. Endocr Rev 2010;31:702-55

Results

- Hormonal Profile During Pregnancies

	T ₃ (pmol/l)	T ₄ (pmol/l)	TSH(mU/l)
1 st Pregnancy	6.4	0.6	0.06
2 nd Pregnancy	5.4	1.1	0.00

- BIRTH WEIGHTS

Baby 1 3065 grams
Baby 2 3685 grams

- Neurodevelopment at 27 months equivalent to 30 months of age(GL assessment)

Locomotor Baby 1 14 Baby 2 12	Speech & Language Baby 1 14 Baby 2 14
Hearing & Language Baby 1 14 Baby 2 16	Interactive skills Baby 1 18 Baby 2 18
Manipulative skills Baby 1 20 Baby 2 18	

School Performance 2015

Attitude to learning and performance

Child 1- year 3 outstanding report

Child 2- year 1 outstanding report