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**
- info@gl-assessment.co.uk
- Thyroid function and human reproductive health. Endocr Rev 2010;31:702-55

**Results**

- **Hormonal Profile During Pregnancies**

<table>
<thead>
<tr>
<th></th>
<th>T3(pmol/l)</th>
<th>T4(pmol/l)</th>
<th>TSH(mU/l)</th>
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<tbody>
<tr>
<td>1st Pregnancy</td>
<td>6.4</td>
<td>0.6</td>
<td>0.06</td>
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<tr>
<td>2nd Pregnancy</td>
<td>5.4</td>
<td>1.1</td>
<td>0.00</td>
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- **BIRTH WEIGHTS**
  - Baby 1     3065 grams
  - Baby 2     3685 grams

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

- **School Performance 2015**
  - Attitude to learning and performance
    - Child 1- year 3 outstanding report
    - Child 2- year 1 outstanding report