Spontaneous Ovarian Hyperstimulation Syndrome in Pregnancy: A Rare Presentation of Hypothyroidism

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Presentation

- A 27-year-old primigravida was referred for gynaecology assessment after her 12 week booking ultrasound scan showed a multiloculated cystic mass in the Pouch of Douglas
- She reported dry skin, fatigue and constipation for several months
- She had no past medical history and took no regular medications
- She had conceived naturally, and her periods were previously regular
- There was a family history of hypothyroidism in her sister
- She emigrated from India 3 years earlier with her husband

Investigations

- Pelvic MRI at 14 weeks’ gestation revealed bilateral multicystic ovarian masses (measuring 9.2 x 5.6cm and 7.8 x 5.1cm) [Figure 1]
- CA 125 was mildly elevated, a non-specific finding in pregnancy
- A second MRI, performed at 20 weeks’ gestation, showed enlargement of both masses (14.4 x 6.4cm and 15.6 x 7.5cm) suggestive of spontaneous ovarian hyperstimulation syndrome [Figure 2]
- Thyroid biochemistry was subsequently checked and revealed severe primary hypothyroidism alongside strongly positive anti-TPO antibodies [Table 1]

Table 1 – Thyroid Biochemistry

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Result</th>
<th>Reference range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Free T4</td>
<td>&lt;5</td>
<td>9-21 pmol/L</td>
</tr>
<tr>
<td>TSH</td>
<td>&gt;200</td>
<td>0.35-5 mU/L</td>
</tr>
<tr>
<td>Anti-TPO</td>
<td>1597.1</td>
<td>&lt; 6U/mL</td>
</tr>
<tr>
<td>TSH receptor antibody</td>
<td>1.1</td>
<td>0.0-1.9 U/L</td>
</tr>
</tbody>
</table>

Management

- Following assessment at the endocrine antenatal clinic, levothyroxine 100mcg daily was commenced
- The patient returned permanently to India therefore the remaining clinical course is unknown

Discussion

- Rapidly enlarging ovarian cysts are a rare consequence of severe hypothyroidism and represent a form of spontaneous ovarian hyperstimulation syndrome¹
- This has been reported in the context of pregnancy²,³
- The mechanisms of cyst enlargement include TSH stimulation of ovarian FSH receptors, and, in some cases, activating mutations of the FSH receptor¹,⁴,⁵
- Cyst shrinkage and resolution is reported with successful treatment of hypothyroidism¹
- The impact of untreated maternal hypothyroidism on fetal development is not well defined however impaired neurocognitive development in offspring has been reported⁶

References