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

Table 1 – Thyroid Biochemistry

	Result	Reference range
Free T4	<5	9-21 pmol/L
TSH	>200	0.35-5 mU/L
Anti-TPO	1597.1	< 6U/mL
TSH receptor antibody	1.1	0.0-1.9 U/L

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

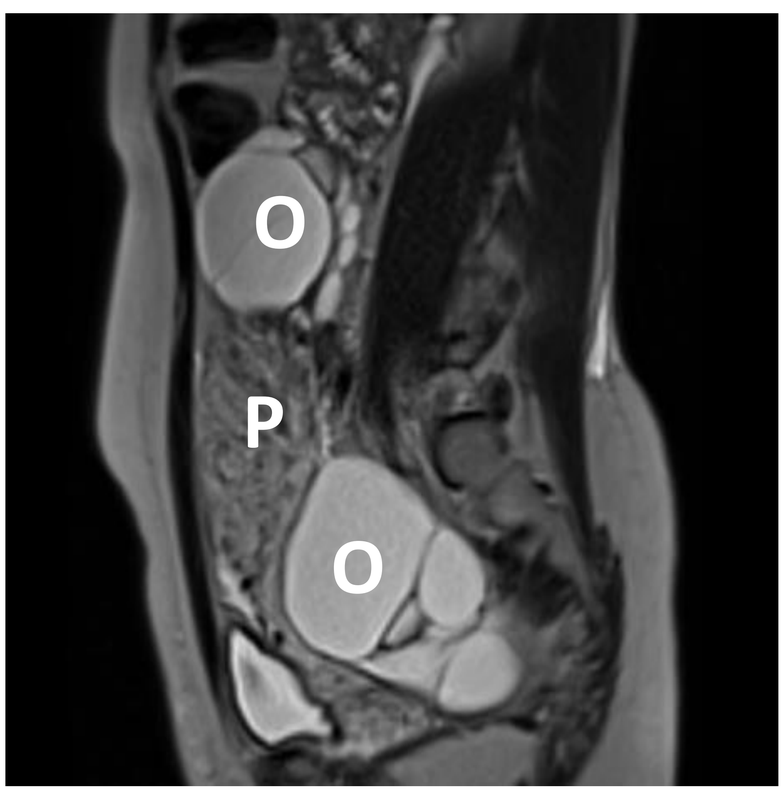
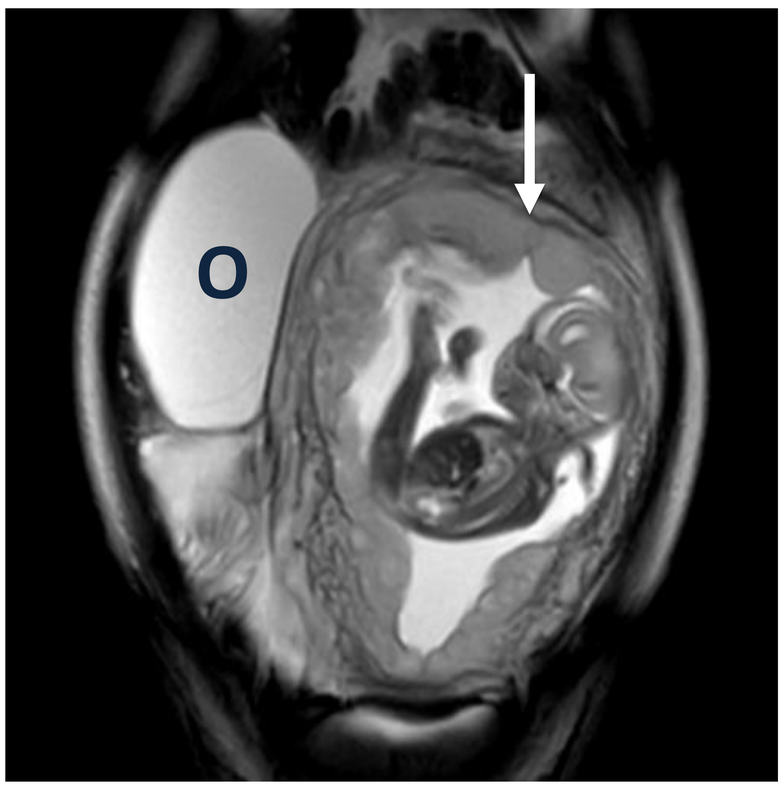


Figure 1: Sagittal view of abdomen and pelvis at 14 weeks' gestation. O = ovary, P = placenta



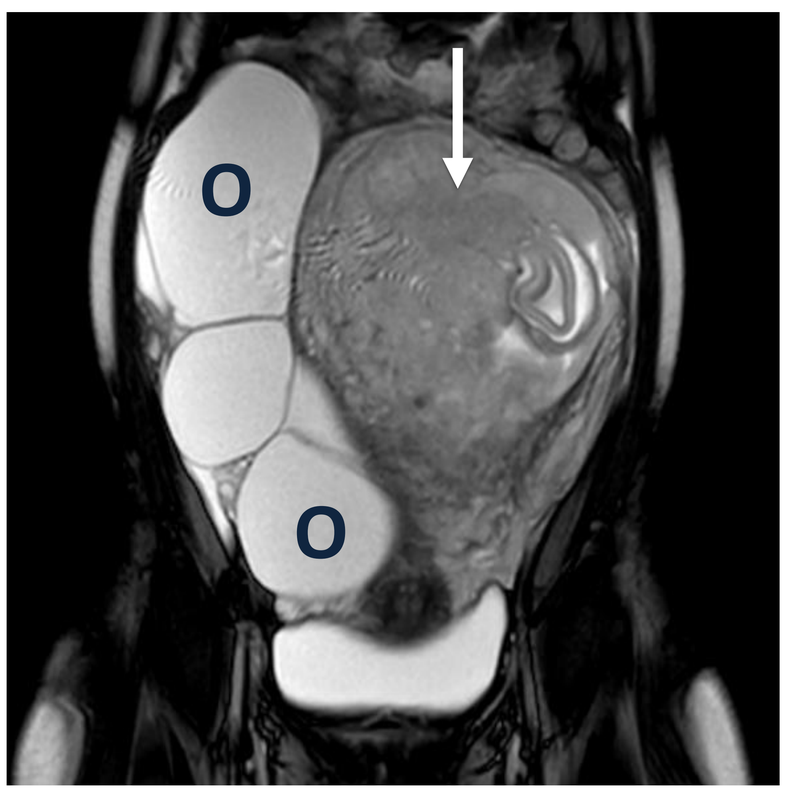


Figure 2: Coronal view of abdomen and pelvis at 20 weeks' gestation, O = ovary, arrow = fetoplacental unit

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]

Discussion

- Rapidly enlarging ovarian cysts are a rare consequence of severe hypothyroidism and represent a form of spontaneous ovarian hyperstimulation syndrome[1]
- This has been reported in the context of pregnancy[2,3]
- The mechanisms of cyst enlargement include TSH stimulation of ovarian FSH receptors, and, in some cases, activating mutations of the FSH receptor[1,4,5]
- Cyst shrinkage and resolution is reported with successful treatment of hypothyroidism[1]
- The impact of untreated maternal hypothyroidism on fetal development is not well defined however impaired neurocognitive development in offspring has been reported[6]

References 1. Shu et al. Reprod Biol and Endocrinol. 2. Cardoso et al. Obstet Gynecol, 1999. 3. Nappi et al. Am J Obstet Gynecol, 1998. 4. De Leener et al. JCEM, 2006. 5. Aghajanova et al. Reprod Biomed Online, 2009. 6. Smallridge et al. JCEM, 2001.

BES2018 100--EP
Thyroid
Emma Johns
Poster presented at: SfE BES 2018 19-21 November GLASGOW
PosterSessionOnline.com