

LIVERPOOL
HOSPITAL

OVERT HYPERTHYROIDISM: A CASE OF GESTATIONAL THYROTOXICOSIS

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Background:

Extremes in TFTs have profound effects on maternal and fetal welfare. Here a case of gestational thyrotoxicosis is described.

CLINICAL DESCRIPTION

AA 24 yo G2P0 Kenyan woman who was 10/40 weeks pregnant, presented to a tertiary hospital with a four week history of intractable nausea, vomiting, presyncope, palpitations, epigastric pain, and tremor. She was hypotensive, tachycardic, hypokalaemic, hyponatraemic, had a moderate LFT derangement with elevated lipase, β hCG of 558 960, and a T4 over 100 with TSH <0.01. She was transferred to ICU for monitoring where she was hypertensive to 160/90 with brisk reflexes.

Further investigation found an elevated sFLT ratio of 156, negative thyroid receptor antibodies, and intrauterine pregnancy. TTE, renal tract USS, and upper abdominal USS were normal. She was diagnosed with gestational thyrotoxicosis (GT), hyperemesis gravidarum (HG), and hypertension. Propylthiouracil commencement was delayed owing to LFT derangement, and was ceased with the resolution of symptoms.

She was noted to have refeeding syndrome once tolerating oral intake that required aggressive treatment. She was discharged day 11 of admission on metoclopramide, pyridoxine, ondansetron, aspirin, and labetalol.

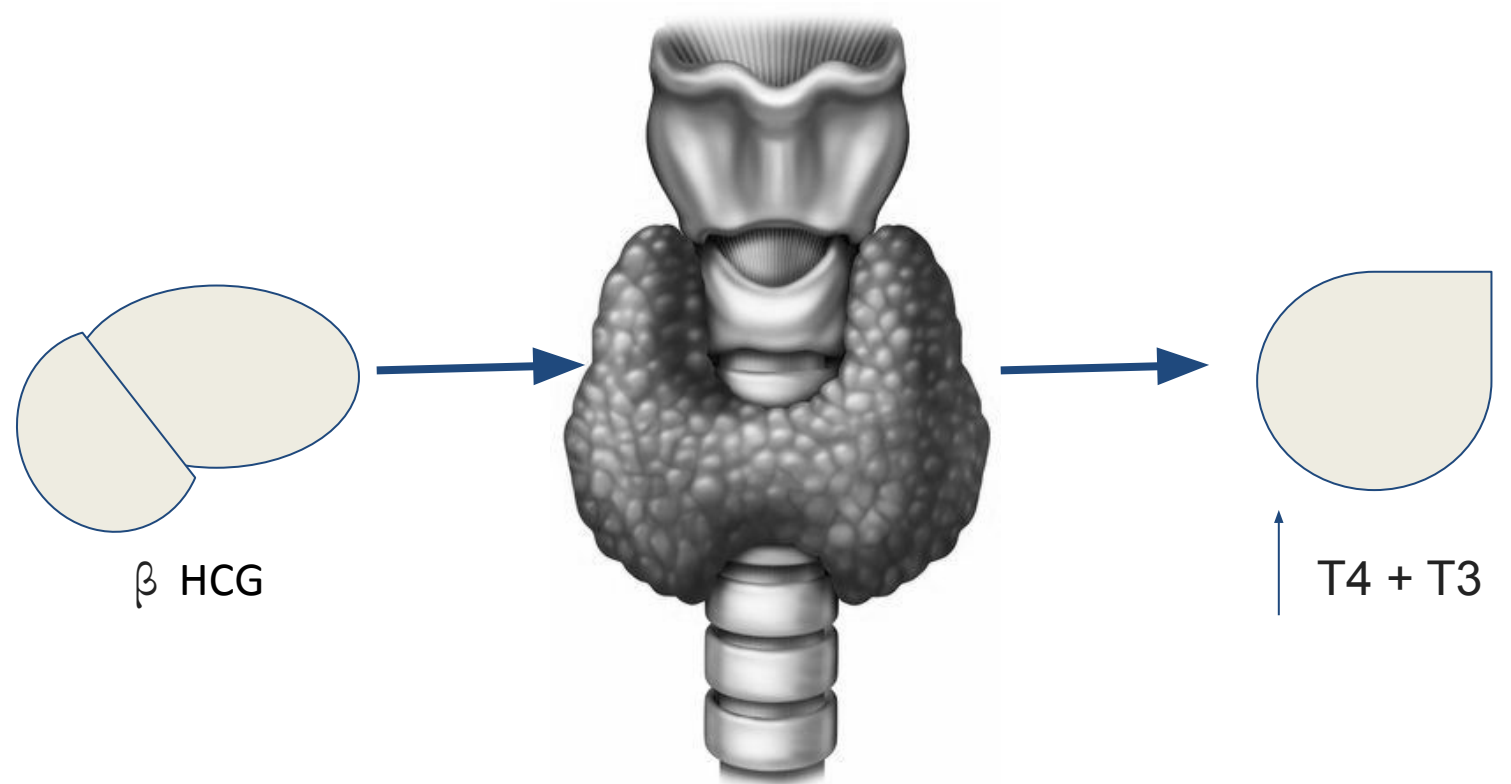


Fig 1: β HCG action on thyroid owing to same alpha subunit as TSH, resulting in unopposed thyroid hormone production

DISCUSSION:

Overt hyperthyroidism affects 0.1– 0.4% of all pregnancies.¹ Commonly it is caused by Graves' disease and HCG mediated conditions (HMC). Graves develops secondary to thyroid receptor antibodies that cause T4 levels to increase, whilst HMC are caused by cross reactivity of hCG with TSH resulting in unopposed stimulation of the thyroid gland (Fig 1). HMC include GT, HG, trophoblastic hyperthyroidism, and familial gestational hyperthyroidism.¹ Complications of uncontrolled hyperthyroidism include preterm delivery, preeclampsia, maternal cardiac failure, IUGR, foetal goitre, hydrops, craniosynostosis, and stillbirth.¹ Symptomatic hCG mediated disorders are treated with propylthiouracil in the first trimester as carbimazole has teratogenic effects.²

Conclusion

Overt hyperthyroidism is a less frequent cause of HMC mediated disorders in pregnancy. However, early identification and treatment is crucial to preventing long term effects on both mother and foetus.

REFERENCES:

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2. Ross, D.S. UpToDate. [Online]. Available from: https://www.uptodate.com/contents/hyperthyroidism-during-pregnancy-treatment?sectionName=FETAL%20OR%20NEONATAL%20HYPERTHYROIDISM&topicRef=7868&anchor=H13&source=see_link#H13 [Accessed 1 May 2019].