

A case of secondary hyperthyroidism*B Cooke, CH Courtney*

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23yr old lady referred to endocrine outpatients with symptoms of hyperactivity, palpitations, anxiety and 'feeling cold all the time'. At clinic she reported a 1 year history of coldness and tiredness with no other thyroid symptoms. Her GP had checked TFTs and found free T4 23.6pmol/l with TSH 2.6mU/l. She reported her father had a history of thyroid dysfunction but was unsure of any specifics. She had no significant past medical history. Medication comprised implanon and piriton for rhinitis. She had a 2 year old son with no thyroid problems experienced during pregnancy and no previous obstetric history.

On examination she was clinically euthyroid and there was no goitre palpable. TFTs were repeated at her clinic attendance and a sample was forwarded to another local hospital for further testing to rule out assay interference.

Free T4 was consistently elevated on tests with a non-suppressed TSH.

TRH Stimulation test, T3 suppression test and MRI pituitary were performed.

Anterior pituitary hormone profile was normal. Alpha subunit was 1.0IU/l. SHBG was normal.

TRH test:

TIME (minutes)	TSH level (mU/l)
0	3.24
20	25.361
60	27.173

T3 stimulation test -T3 20mcg QID for 8 days:

Date	27/04/2010	07/05/2010
Free T4 (pmol/l)	21.2	12.6
TSH (mU/l)	3.264	0.469
T3 (nmol/l)	2.7	2.8

MRI pituitary – suggested bulky pituitary with no focal lesion.

Results of dynamic thyroid testing together with the clinically euthyroid patient support a diagnosis of resistance to thyroid hormone. We have requested she ask her siblings to have their thyroid function checked. Depending on the results we may consider genetic testing to determine the mutation.