

## Optimising Calcium & Vitamin D replacement in Hypoparathyroidism

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**Case History:** We present a 24 year old lady of Polish origin with hypothyroidism and hypoparathyroidism. In 2007, she had had a total thyroidectomy followed by radioactive iodine ablation for papillary thyroid carcinoma which had occurred on a background of Hashimoto's thyroiditis. Staging of thyroid carcinoma was unclear from the history. There was no evidence of recurrence and her most recent thyroglobulin was undetectable.

She moved to the UAE in 2007 and presented to the Endocrine Clinic for follow-up. At presentation she was asymptomatic. There was no family history of note. Her medication included thyroxine 125/150 mcg alternate days, calcium 4 gm daily, alfacalcidol 1.25 mcg od as well as magnesium and vitamin B6 supplements.

**On Examination:** She was well with a body mass index of 19.2 kg/m<sup>2</sup>, normal pulse and blood pressure. Thyroidectomy scar was noted. There was no palpable thyroid tissue. There was no lymphadenopathy. General medical examination was otherwise unremarkable.

**Investigations:** TSH 0.032 mU/l, FT4 25.4 (12-22) pmol/l, FT3 4.9 (3.1-6.8) pmol/l, Thyroglobulin 13.0 iU/ml (0.27-4.2), calcium (2.2-2.65) 2.44 mmol/l, magnesium 0.67 (0.77-1.03) mmol/l, intact PTH 0.485 (1.6-6.9) pmol/l, 25-OH-vitamin D 62.5 nmol/l (50-200). Urea and electrolytes were normal.

**Treatment and Conclusions:** Reduction of calcium supplements was recommended. Thyroxine replacement continued at same dose. Further investigations including serum phosphate and thyroglobulin are awaited. Hypoparathyroidism following total thyroidectomy is relatively common following total thyroidectomy. Treatment can be challenging and targets often undefined.

**Points for discussion:** 1/ Does this patient have hypoparathyroidism? 2/ Optimisation of calcium and vitamin D supplementation in a patient with hypoparathyroidism. 3/ Is magnesium replacement needed and if so, what is the optimum dose.