Hyperthyroidism in a Patient with Bartter Syndrome

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A 27-year-old female presented with a history of weight loss, insomnia, and palpitations. She had been diagnosed with Bartter Syndrome since childhood and was on hemodialysis due to renal failure secondary to nephrocalcinosis. Her thyroid function test showed hyperthyroidism with a thyroid stimulating hormone (TSH) level of 0.01 uIU/ml (normal range: 0.27-4.2 uIU/ml), FT4 level of 60.27 ppmol/L (normal range: 12-22 pmol/L), and FT3 level of 29.11 pmol/L (normal range: 3.1-6.8 pmol/L). The patient was also found to have a high alkaline phosphatase level of 781 IU/L (normal range 35-105 IU/L). She was started on carbimazole and propranolol, and her TSH was 0.01, her FT4 level was 26.2 pmol/L, and her FT3 level was 7.4 pmol/L. However, her alkaline phosphatase level increased to 1176 IU/L. Carbimazole was then discontinued, and the patient was started on radioiodine therapy. Three months following radiodine therapy the thyroid function test was repeated, and her TSH was 21.64 uIU/ml, her FT4 level was 1.61 pmol/L, and her FT3 level was 1.09 pmol/L. The patient was then started on levothyroxine (25 mcg).

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