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## Thyrotoxic periodic paralysis

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Thyrotoxic periodic paralysis (TPP) is a rare but life threatening complication of hyperthyroid. It is characterized by acute hypokalemia, muscle weakness/paralysis and hyperthyroidism. We present a case of 36-year-old Filipino male who presented to the ED with numbness and weakness in his lower extremities that started early in the morning when he was unable to get out of bed. He had consumed a high carbohydrate meal the night before. The patient also had palpitations and frequent bowel movements. He denied weight loss, tremors, or heat intolerance. No family history for familial periodic paralysis or hyperthyroid. He denied use of diuretics, laxatives, alcohol and drugs. On examination, he was tachycardia, had a nodular goiter, decreased muscle strength bilaterally in lower extremities, and decreased DTRs bilaterally in lower extremities and no sensory deficits. Labs showed K=1.8 mmol/L, PO<sub>4</sub>=4 mg/dL, Mg=1.6 mg/dL. EKG showed sinus tachycardia, diffuse ST segment depression and wide QRS complexes. Patient was given 20 mEq IV potassium x 2 boluses, which improved his lower extremity weakness. Further labs showed TSH<0.03 uU/ml, FT<sub>4</sub>=4.6 ng/dL, and FT<sub>3</sub>=7.4 pg/mL. He was diagnosed with Thyrotoxic Periodic Paralysis and started on Propranolol 20 mg TID and methimazole 20 mg daily; there was complete resolution of his lower extremity paralysis. Prompt recognition of TPP is crucial, as misdiagnosis and mistreatment can lead to rebound hyperkalemia. TPP does not present with the overt typical signs of hyperthyroid. Hyperthyroidism is also more common in females but TPP occurs predominantly in males. In TPP there is hyporeflexia rather than hyperreflexia in the lower extremities. TPP was more prevalent in East Asian countries, but increased cases have been reported in the United States due to immigration. In conclusion, thyroid function tests should be performed in patients presenting with hypokalemia and lower extremity weakness.

## Biography

Anushka Chadha is a 4<sup>th</sup> year medical student from St. George's University School of Medicine and a graduate of George Washington University, where she earned a bachelor of science in biology. Her research interests are in the vast field of internal medicine. She previously published a paper on the recent advances in the management of left main coronary artery disease in Therapeutic Advances in Cardiology Journal. She worked with the American Public Health Association, and wrote multiple articles in their publication, The Nation's Health. She worked with an environmental health NGO at the United Nations and wrote an article about arsenic poisoning in Bangladesh for their publication, The Ecology Enquirer. Among her earliest work, she authored a paper from her work on evolutionary genetics at the University California Santa Barbara on the effect of light wavelength on the mating, copulation and fitness on *Drosophila melanogaster*, published in The Enquiries Journal.

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