

## Acute hypokalemic periodic paralysis after intravenous administration of methylprednisolone in patient with graves' thyrotoxicosis: A letter to editor

Seyyed Javad Kiani<sup>1</sup>, Mohammad Amin Fereydouni<sup>2</sup>, Mehrdad Taghipour<sup>\*3</sup>, Fariborz Azizi<sup>4</sup>, Lotfollah Davoodi<sup>5</sup>, Reza Maleki Gorji<sup>5</sup>

<sup>1</sup>Assistant professor of Endocrinology, Hamedan University of Medical Sciences, Hamedan, Iran

<sup>2</sup>Student Research Committee, School of Medicine, Hamedan University of Medical Sciences, Hamedan, Iran

<sup>3</sup>Baqiyatallah University of Medical Sciences, Tehran, Iran

<sup>4</sup>Student research committee, Mazandaran University of Medical Sciences, Sari, Iran

<sup>5</sup>Microbial Resistance Research Center, Mazandaran University of Medical Sciences, Sari, Iran

Corresponding author

Mehrdad Taghipour, MD

Nephrology and Urology Research Center, Baqiyatallah University of Medical Sciences, Molla Sadra Ave, Vanak Sq. Tehran, IR Iran

Email: mehrdadtaghipour@gmail.com

### Dear Editor,

A 42-year-old man as a known case of hyperthyroidism with the first presentations of proptosis and red eye admitted in March 2013 for graves' thyrotoxicosis opthalmopathy (**Figure 1**). In the past year he had 10 kg weight loss without any complaint of appetite decrease. He was a smoker and had a positive family history of goiter in his mother and brother. On the physical examination, the body temperature was normal, with a blood pressure of about 80/110, bilateral eyes conjunctivitis and also increase in the size of the thyroid gland was observed. The patient received intravenous methylprednisolone from the first day of hospitalization. Followed by injection of the second doses on the third day, he mentioned a paresthesia and inability of movement in his lower extremities. Forces of muscles in every four limbs reduced to 2/5 and the potassium level decreased to 2.2. Other laboratory results were as follows: (Ca=7.6, P=1.4, Urea=22, Cr=1, Na=142). Based on these clinical and paraclinic findings, the diagnosis of periodic hypokalemic paralysis confirmed. Prednisolone infusion was stopped immediately and the patient's symptoms completely subsided. Finally, the

experimental results indicate that the potassium level was elevated from 2.2 to 4.6. Now he is in a favorable treatment condition.

Periodic paralysis (PP) is a rare neuromuscular disorder but potentially serious condition, described by episodic muscle weakness [1-3]. Most of them are hereditary. But acquired cases are associated hyperthyroidism [4-6]. Hypokalemic periodic paralysis is one of the types of PP that is an infrequent condition, in which the serum levels of potassium, is diminished. It has the incidence rate of about 1 out of 100,000 people [3]. It is a rare complication of thyrotoxicosis. Glucocorticoids are used in clinical practice to treat patients with thyroid disorders such as Graves' thyrotoxicosis [7, 8]. Physicians should be cautious in prescribing corticosteroids to in patients with thyrotoxicosis because there is a risk of hypokalemic paralysis in susceptible individuals [9]. So sufficient correction of potassium levels in the hyperthyroid state can improve symptoms rapidly and also prevent complications resulting from it [10].

**Figure1.****Figure 1:** A patient with graves' thyrotoxicosis and ophthalmopathy**References**

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