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Rasagiline-Induced Hypoglycemia

Rasajiline Bağlı Hipoglisemi

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Dear Editor,

Hypoglycemia that results from an absolute or relative decline in blood sugar is a clinical condition with various manifestations and mortality rate up to 11-27% (1). Rasagiline is a second generation irreversible monoamine oxidase B (MAO-B) inhibitor which is indicated for the treatment of Parkinson's disease (2). We aimed to present a patient with Parkinson's disease who developed hypoglycemia due to rasagiline use. The case is unique in the literature, because she had no concomitant diseases or medication usage.

A 42-year-old female patient presented to the outpatient clinic with the complaints of dizziness, weakness, fatigue, nervousness, tension, cold sweating, and hunger sensation over the past year. She was having the diagnosis of Parkinson's disease for years and was using rasagiline 0.5 mg/day. The patient was alert, oriented, and cooperative. On physical examination, the skin was cold and moist. Rhythmic heartbeats and tachycardia (105/minute) were observed. Laboratory tests revealed the followings: WBC: 4600/mL hemoglobin: 11.8 g/dL hematocrit: 35.2% platelet: 342x10^6/mL, mean corpuscular volume: 79 fL, urea: 79 mg/dL, glucose: 55 mg/dL (measurement was repeated two times, the results were in accordance with the previous ones) calcium: 8.8 mg/dL, creatinine: 0.6 mg/dL, K: 4.6 mmol/L, sodium: 135 mmol/dL, total protein: 7.6 g/dL, cortisol: 8.9 mcg/dL, and prolactin: 6.9 ng/mL.

Hypoglycemia was observed at admission (blood glucose level: 55 mg/dL). The patient was awake and conscious, she received 20 grams oral carbohydrate as a first intervention in the outpatient clinic and, then, she was hospitalized. Hypoglycemia symptoms were improved after oral carbohydrate. The patient was evaluated for possible causes of hypoglycemia and the following results were obtained: Adrenocorticotropic hormone: 23.4 ng/mL, cortisol 12.02 mcg/dL (repeated), ferritin: 24 mg/dL, free T_4: 1.04 ng/dL thyroid-stimulating hormone: 0.696 m IU/l, 25-hydroxy vitamin D: 21.4 ng/mL, insulin-like growth factor-1: 102 ng/mL, insulin: <2 mIU/mL, C-peptide: 0.583 ng/mL, and growth hormone: 0.741 ng/mL. The patient had mild iron-deficiency anemia. According to the examination and laboratory and imaging studies, any pathology other than hypoglycemia due to rasagiline medication for Parkinson's disease was not detected. The symptoms related to hypoglycemia were not detected after discontinuation of rasagiline. Parkinsonism treatment was organized by the department of neurology. A diet program was created. During outpatient follow-up, we did not detect any sign and symptom of hypoglycemia for two months, thus, follow-up for hypoglycemia was terminated.

Rasagiline is a selective MAO-B inhibitor. It is used in Parkinson's disease either as monotherapy or in combination with levodopa. Rasagiline treatment may come with some adverse effects, such as gastrointestinal symptoms, hypotension, sleep disorders, headache, anxiety, and edema. There have been post-marketing information obtained, the use range in the about 166.000 Parkinson's disease patients with estimated 399.120 patient/year usage across the world a serious adverse effect did not reported until the date 2010 (3). However, accompanying possible hypoglycemic effects of selegiline, which is also a selective MAO-B inhibitor, have been reported in animal and human studies (4). According to Food and Drug Administration reports of the adverse effects related to rasagiline therapy, until December 2013, only two out of 1.380 patients have been reported to have hypoglycemia due to rasagiline use. These two patients were over the age of 60, the both patients had systemic diseases other than Parkinson's disease such as type 2 diabetes mellitus, hypertension, and rheumatoid arthritis (5). As these features were present in both patients, rasagiline was not the possible cause of hypoglycemia. Our patient did not have any accompanying systemic disease and drug use; symptoms and signs of hypoglycemia improved after cessation of rasagiline therapy. Any other possible cause of hypoglycemia was not detected. When all these facts were considered, rasagiline was found to be the sole factor inducing hypoglycemia in our patient. This case is unique in the literature.

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As hypoglycemia can be a cause of mortality, it should be kept in Parkinson's disease patients as they are prone to hypoglycemia.

Keywords: Hypoglycemia, rasagiline, diabetes
Anahtar kelimeler: Hipoglisemi, rasajilin, diyabet

Ethics

Informed Consent: It was taken.
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