A Case Report of a Renal Transplant Patient with Progressive Neurological Disorder due to Tacrolimus

Bir Böbrek transplantasyonu Hastasında Takrolimustan Kaynaklanan Progresif Nörolojik Bozukluk: Olgu Sunumu

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Abstract

Neurological complications of tacrolimus are usually mild (tremors, paresthesia, myalgia), however, serious complications that result in encephalopathy, convulsions and coma can be seen. Serious complications are more frequently reported following liver transplants and lungs transplants than renal transplants and are typically seen when tacrolimus concentrations exceed the 15 ng/L therapeutic limit. In this article we presented our case of a renal allograft receiver with nausea, dizziness and fatigue complaints.

Keywords: Renal transplant, Neurological disorder, Tacrolimus

Özet

Takrolimusun nörolojik komplikasyonları genellikle hafiftir (tremor, parestesi ve miyalji), ancak ensefalopati, konvülzyonlar ve koma ile seyreden ciddi komplikasyonlarda görülebilir. Ciddi komplikasyonlar çoğunlukla böbrek transplantasyonundan ziyade karaciğer ve akciğer transplantasyonu sonrası bildirilmiştir ve tipik olarak takrolimus konsantrasyonu 15 ng/l’lik terapötik sınırın üzerine çıktığı zaman görülür. Bu yazida bulantı, baş dönmesi, halsizlik şikayetleri görülen bir böbrek allograft alıcısı olgumuzu sunduk.

Anahtar Kelimeler: Böbrek nakli, Nörolojik bozukluk, Tacrolimus
Introduction

N eurological complications of tacrolimus are usually mild and include tremors, paresthesia, and myalgia. However, serious complications resulting in encephalopathy, convulsions, and coma can occur [1]. Significant complications are more frequently reported following a liver or lung transplant, instead of a renal transplant, and they are typically seen when tacrolimus concentrations exceed the 15 ng/L therapeutic limit [1,2]. In this article, we present our case of a renal allograft receiver with complaints of nausea, dizziness, and fatigue.

Case Report

The patient was male and 21 years of age. He was admitted with high blood pressure and complaints of fatigue and nausea. He had received a renal transplant from a live donor (his mother) on May 21, 2007 (d0). On postoperative day 16, he was discharged as cured, with no developing complications. At discharge, he was prescribed tacrolimus (Prograf 1 mg capsules: 5 capsules in the morning and 4 in the evening), mycophenolate mofetil (CellCept 500 mg tablets: 2 capsules a day), and prednisolone (Deltacortil 5 mg tablets: 2 capsules a day).

On day 30 (d30) following transplantation, the patient complained of diarrhea, and a Gaita culture was performed. Two-500 mg siprofloxacin tablets were prescribed. Three weeks after this incident (d51), the patient presented with nausea, dizziness, and fatigue. With 23.5 ng/mL of tacrolimus in his blood, he was diagnosed with tacrolimus intoxication. Tacrolimus was discontinued, and sirolimus was initiated. His symptoms improved, and he was followed for 16 days; the patient was discharged when no further problems arose (d67). There have been no other issues with the patient during the 22 month follow up.

Discussion

Serious calcineurin inhibitor-based MSS toxicity is associated with leukoencephalopathy [3]. Neuro-radiological disorders are most commonly seen in the patietal-occipital area. Multifocal low density lesions of white matter in BT are associated with hyperdense lesions on MRI [1]. However, changes are very ambiguous. Usually, cases arise when blood levels of tacrolimus increase. However, problems can also occur when these levels of tacrolimus are within a normal range. In the 50 cases reported, the mean time to onset was 28 days, and in 82% of the cases it developed within 90 days [4]. In our case, the level of tacrolimus in the blood was significantly elevated, and onset of symptoms occurred 51 days after the patient’s transplant.

The most common neurotoxicity symptoms due to calcineurin inhibitors are tremors, fatigue, headache, sleep disorders, paranoid reactions, and anxiety. In serious cases, polyneuropathy, convulsions, confusion, and coma can develop [4]. In our patient, nausea, dizziness, and fatigue were present.

As a result, even though tacrolimus is an effective drug for preventing transplant rejections, it must be noted that it can lead to neuropsychological and behavioral disorders.

Conflict interest statement The authors declare that they have no conflict of interest to the publication of this article.

References