

Caution for the Nutrition in Immune Thrombocytopenia: Eltrombopag and Pistachio Nuts Interaction

İmmün Trombositopenide Nutrisyona Dikkat: Eltrombopag ve Antep Fıstığı Etkileşimi
NÜTRİSYON

Başvuru: 06.05.2021
Kabul: 04.06.2021
Yayın: 11.06.2021

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Özet

Eltrombopag, oral, peptid olmayan bir trombopoietin reseptör agonistidir ve immün trombositopeni gibi düşük trombosit sayısı olan çeşitli hematolojik hastalıklarda trombosit seviyelerini yükseltmek için kullanılır. Gıdalarda, mineral takviyelerinde ve antasitlerde emilimini etkileyen çok değerlikli katyonlarla şelat oluşturur. Bu özellikle aşırı miktarda süt ürünü alan hastalar için önemlidir. Magnezyum ayrıca eltrombopag emilimini de etkileyebilen çok değerlikli bir katyondur. Burada, aşırı miktarda antepfıstığı tüketen ve bu nedenle eltrombopag'a yanıtız kalan ITP tanılı bir vaka sunmayı amaçladık.

Anahtar kelimeler: *eltrombopag, magnezyum, metilprednizolon, nutrisyon*

Abstract

Eltrombopag is an oral, non-peptide thrombopoietin receptor agonist and is used to elevate platelet levels in several hematologic diseases with low platelet counts such as immune thrombocytopenia. It forms a chelate with polyvalent cations in foods, mineral supplements, and antacids which affects its absorption. This is especially important for patients taking excessive amounts of dairy products. Magnesium is also a polyvalent cation that can also influence eltrombopag absorption. Here, we present an ITP-diagnosed case who consumed excessive amounts of pistachio nuts and therefore remained unresponsive to eltrombopag.

Keywords: *eltrombopag, magnesium, methylprednisolone, nutrition*

Introduction

Eltrombopag is an oral, non-peptide thrombopoietin receptor agonist which is used to raise platelet level in several hematologic diseases with low platelet counts such as immune thrombocytopenia (ITP)¹. Polyvalent cations (iron, calcium, aluminum, magnesium, selenium, zinc) may diminish the absorption of the drug, probably by binding to its metal chelate site¹. Concentrated foods such as red grapes, blueberries, garlic, onions, and ginger may interfere with clotting and should not be consumed in large quantities in ITP². Here, we present a secondary ITP case suffering from eltrombopag treatment failure who consumed large amounts of pistachios containing excess magnesium daily.

Case Report

The 56-year-old female patient has been followed because of hepatic cirrhosis caused by a hepatitis-B infection for 8 years. Spontaneous bruises increased on the arms and legs of the patient about two months ago. When the patient applied to the hematology clinic, her platelet level was 2000/mm³. Physical examination was normal except for splenomegaly and petechiae. She didn't have any hemolysis. ANA and *H. pylori* gaita antigen were negative. Prothrombin time level was 16.7 seconds (upper limit: 14 seconds) due to cirrhosis. Magnesium and TSH levels were normal. Since the diagnosis of ITP was based on the exclusion of other possible causes and such low levels of thrombocyte levels were not expected in hypersplenism due to cirrhosis, the patient was diagnosed with ITP secondary to HBV and steroid treatment was initiated³. Due to inadequate response after

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Yavaşoğlu İ ve ark . İmmün trombositopenide nutrisyona dikkat: eltrombopag ve antep fıstığı etkileşimi.
CausaPedia. 2021; 10(3): 73-74.

methylprednisolone 1mg/kg/day treatment for 8 days, eltrombopag 50 mg/day was initiated to the patient with resistant thrombocytopenia. Splenectomy could have been considered despite the patient having cirrhosis, but it was removed from the options because the patient did not consent to the procedure and the platelet count had already increased with eltrombopag. After using eltrombopag for 1.5 months, the platelets count increased from 2000/mm³ to 84000/mm³, however, during the follow-up, the platelet count decreased to 1000/mm³ again. Eltrombopag treatment was maintained and methylprednisolone 1mg/kg/day was initiated to the patient. Based on the story of the patient, it was found out that she had eaten 50 grams of pistachio nuts daily for 15-20 days. Pistachio nuts contain 121mg/100g magnesium. It should be considered that the eltrombopag and pistachio nuts should not be consumed at the same time, although there is no literature study. The patient was advised not to eat pistachio while on eltrombopag 50mg/day treatment. Steroid treatment was discontinued on the 10th day. The follow-up of the patient whose platelet number raised to 58000/mm³ has been continued.

Case Discussion

Eltrombopag forms chelate with polyvalent cations in foods, mineral supplements, and antacids. For this reason, it is recommended that eltrombopag should be taken before 2 hours or 4 hours after the meal³. This is also important for calcium-rich(50 mg<) foods and beverages; such as milk, buttermilk, yogurt, and cheese which are consumed frequently in meals⁴. As in our patient, unexpected foods such as pistachio nuts may affect bioavailability due to food-drug interactions and may be the cause of drug failure, and this can only be revealed when properly questioned. This also prevents unnecessary dose increment and hence reduces the overall costs.

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