Type-I Hypersensitivity Reaction Secondary to Deferasirox Intake

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ABSTRACT

Deferasirox is a new generation tridentate iron chelator. We report a ten-year old ß-thalassaemic boy, who had type-I hypersensitivity reaction due to deferasirox intake. At the seventh day of deferasirox treatment, he admitted to our clinic with the complaints of pruritic skin rash which began from the neck that spreaded throughout the body. After the termination of deferasirox treatment, the rash didn't recur. When deferasirox was restarted, similar skin rashes reappeared immediately. The skin prick, intradermal and patch tests and oral deferasirox provocation test were performed after 1 year, and the former reaction did not appear. Here in we showed when the defasirox was used first time even ıt caused some allergic reactions, however during the time period it can be used again due to the possibility of development of immune tolerance.

Keywords: Deferasirox, Skin rash, Type-I hypersensitivity reaction

ÖZET

Deferasirox Alımına Sekonder Gelişen Tip-I Hipersensitivite Reaksiyonu

Deferasirox yeni jenerasyon tridente bir demir şelatörüdür. Burada deferasirox alımına bağlı tip-I hipersensivite reaksiyonu gelişen on yaşında ß-thalassemili bir erkek çocuk sunuyoruz. Hasta, deferasirox tedavisinin yedinci gününde boyundan başlayarak tüm vücuda yayılan kaşıntılı deri döküntüleri şikayetiyle başvurdu. Deferasirox tedavisi kesildikten sonra döküntüler tekrarlamadı. Deferasirox tekrar başlandığında deri döküntüleri hızla tekrar ortaya çıktı. Deri prick ve intradermal testleri ve oral provakasyon testi 1 yıl sonra yapıldı ve eski döküntü reaksiyonu gözlenmedi. Bu olgu ile deferasirox ilk kullanıldığında allerjik reaksiyona neden olsa da zaman içinde olası immun tolerans gelişimi nedeniyle tekrar kullanılabileceğini gösterdik.

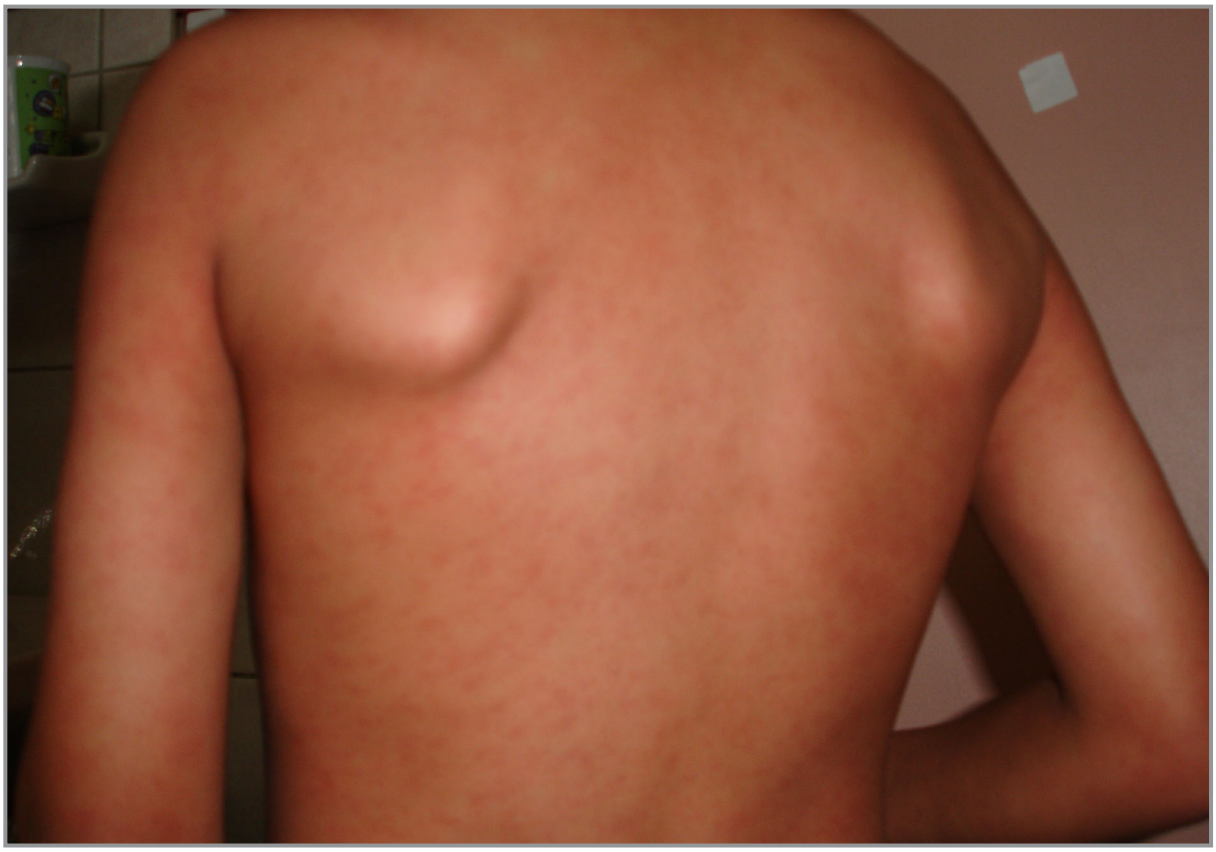
Anahtar Kelimeler: Deferasirox, Deri döküntüsü, Tip-I alerjik reaksiyon

GİRİŞ

Deferasirox is an once-daily oral iron chelator agent, developed for the treatment of chronic iron overload.[1] Most commonly encountered side effects are abdominal pain, nausea, vomiting, diarrhea, constipation, mildly elevated renal and liver function tests and skin rashes.[2,3]

CASE REPORT

A ten year old, ß-thalassaemic boy has been followed-up since 1988 in our clinic and used combined deferoxamine and deferipron treatment due to iron chelation for several years. Since once-daily oral intake of deferasirox was more compatible, and he was non compliant to these drugs, 20 mg/kg/day deferasirox treatment was initiated. At the seventh day of treatment, he was admitted to our clinic for the complaints of pruritic skin rash which began from the neck that spreaded through all body. These lesions were erythematous, raised skin lesions and became pale after palpation. They were more prominent on the upper extremities, upper body, and on dorsal areas. No clinical findings related to angioedema, stridor, bronchospasm, tachycardia, and hypotension were encountered. His renal and hepatic function tests were normal. Deferasirox was stopped and diphenhydramine was initiated. After the termination of deferasirox treatment, the rash didn't recur. He and his family didn't have any drug or food allergy history. Although we didn't find-out the exact cause of urticaria, deferasirox was restarted and similar skin rashes reappeared immediately, but they were milder than the previous ones (Picture 1). Other systemic examination findings were normal and skin rashes disappeared within few days. After the first six weeks of allergic reaction, skin prick and patch tests were not performed since the patient and the family did not give consent. Patient was re-administered combined deferoxamin-deferiprone treatment for iron chelation. After 1 year follow- up of the case, it was understood that the case and his family had not tolerated this treatment regimen, patient was re-evaluated from the deferasirox allergy point of view. After the



Picture 1. Erythematous, raised skin lesions were seen

informed consent of the family, these tests were applied. Prick and intradermal skin tests with the dilutions of deferasirox 0.1 mg/ml and 1 mg/ml were found to be negative. The patch test with the concentration of 30% deferasirox at the 48th and 72nd hours were negative. Then, oral deferasirox provocation test was applied and no reaction was observed. Nowadays, our patient has been taking deferasirox without any untoward effect.

DISCUSSION

In regularly blood transfused ß-thalassaemia patients chronic iron-overload is the major cause of morbidity and mortality.[4] Deferasirox is a new generation, tridentate iron chelator, so called N-substituted bis hydroxy phenyl-triazole.[5] It is used via oral route and as plasma half-life is 8-16 hours, once-daily usage is recommended. Thus compliance is better.[6]

Gastrointestinal system symptoms and skin rashes are the most common side effects of deferasirox. The rate of skin rashes due to deferasirox is 8-10% and it is recommended reusage of deferasirox after the skin rash disappears.[2,3,7]

In our case, since the skin prick, intradermal and patch tests were performed after one year the former reaction could not be defined as type I or type IV hypersensitivity reaction. In this such a long period of time, the tolerance might have developed. After the application of skin prick, intradermal and patch tests, the allergy risk of our case was shown to be low. And then, the provocation test was applied. We presented this case since we would like to share the knowledge of deferasirox administration could be possible after the prick, intradermal and patch tests and provocation.

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