Acute Generalized Exanthematous Pustulosis (AGEP) Induced by Cetirizine in a Child A Case Report

Çocukta Setrizin ile İndüklenen Akut Generalize Ekzantematöz Püstüloz

AGEP Induced Cetirizine in Childhood

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Özet

Akut Generalize Ekzantematöz Püstüloz (AGEP), yaygın foliküler olmayan steril püstüller ile karakterize nadir bir kutanöz döküntüdür. AGEP çocuklarda az rastlanılan bir hastalıktır ve genellikle ilaçlara bağlı ortaya çıkmaktadır. Antibiyotikler, sulfonamidler, ateş düşürücü ve ağrı kesiciler bu ilaç döküntüsünün en sık nedenleridir. Setrizin çocuklarda angioödem, atopik dermatit ve ürtiker tedavisinde sıklıkla kullanılan ikinci kuşak antihistaminiktir. Literatürde ise setrizin ile indüklenen AGEP olgusu yer almamaktadır. Bu olguda oniki yaşında kız çocuk gövdede yer alan ürtikeryal plaklar ile başvurmuş ve tedavi olarak kullanılan setrizin (günde tek doz) ile foliküler olmayan püstül formasyonu gelişmiştir. Tedavinin sonlandırılmasından sonlandırılmasının ardından deskuamasyon ile püstüller tamamen gerilemiş ve oral provakasyon testine yanıtta pozitif olarak alınmıştır. Bu olguda çocukluk yaş grubunda antihistaminiklerin (setrizin) AGEP nedeni olabileceğini göstermek amacıyla sunulmuştur.

Anahtar Kelimeler

AGEP; Çocuklukçağı İlaç Reaksiyonları; Setrizin

Abstract

Acute Generalized Exanthematous Pustulosis (AGEP), is a rare cutaneous rash characterized by widespread sterile non-follicular pustules. AGEP is a rare disease in childhood and it is often due to drugs. Antibiotics, sulphanamides and antipyretic-analgesics are the main reasons of this drug reaction . Cetirizine is a second generation antihistamine is often used in the treatment of angioedema, atopic dermatitis and urticaria in children. Cetirizine induced AGEP was not reported in the literature. In this case a twelve year old child was admitted with urticarial plaques located on her trunk. She developed maculopapular lesions and pustular eruption with Cetirizine (once a day) treatment. Cetirizine was stopped and the nonfollicular pustules cleared with a desquamation. The result of the oral challenge test was positive. We present this rare case to show that the antihistamines (cetirizine) may cause AGEP in childhood.

Keywords

AGEP; Cetirizine; Childhood Drug Reactions

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Introduction

Acute generalized exanthematous pustulosis (AGEP) is a rare acute reaction that is drug induced in 90% of cases.[3] It is characterized by widespread, sterile pustular rash. The eruption is of sudden onset and appears 7-10 days after the medication is started. Pustules resolve spontaneously within a few days by cessation of the drug.[4] Cetirizine is a second generation antihistamine which is used to treat urticaria, atopic dermatitis and angioedema in childhood.[2] This case is important to indicate the cetirizine as a causative factor of AGEP in children.

Case Report

A twelve year old girl was admitted with erythematous oedematous plaques on the chest and extremities and complaining of pruritus. She had no drug history. The patient was taken to the hospital and treated with methylprednisolone (1 mg/kg/day) and cetirizine (daily) also she did not take any other medication. Her urticarial lesions resolved on the fourth day of the treatment. Although the medication had not been changed, on the sixth day she presented with a pruritic, erythematous maculopapular eruption affecting the abdomen, neck and intertriginous areas. One day later she developed pustular lesions and her temperature was 37 C^0. Neutrophils were 12.500 cells/æl (range 1.700-8.000 cells/æl). Histopathologic examination showed subcorneal pustules with inflammatory infiltrate consisting of neutrophils in epidermis and superficial dermis. (Figure 1-2) Methylprednisolone was continued and cetirizine was stopped. After withdrawal of cetirizine and introduction of desloratadine, the disseminated nonfollicular pustules cleared within three days following a desquamation. Oral challenge was done with cetirizine and the pustuler eruption occurred again with the same distribution. The patient was asked about previous adverse reaction to other drugs and no personal or family history of drug reactions and no history of psoriasis was evident.

Discussion

AGEP is a disease characterized by the rapid onset of many sterile, nonfollicular pustules, often erythema, develops very acutely and erythema soon dozens to hundreds of small nonfollicular sterile pustules predominantly located on face, trunk and lower limbs.[1]

Skin symptoms are almost accompanied by fewer above 37 C^0. Leucocytosis is mostly due to blood neutrophil counts above 7x109 /l. After the withdrawal of the drug, pustules resolve spontaneously within a few (4-10 days) days and are in typical cases followed by a characteristic post-pustular pin-point desquamation.[1,3,4]

It seems that more than 90 % of cases with AGEP are drug induced. A wide range of drugs has been suspected of causing these reactions and antibacterials are being the most frequent triggers.[1] The disease is usually caused by penicillins or macrolides. In a minority of cases viral infections have been suspected to trigger AGEP.[5] Typical histopathology shows spongioform subcorneal and/or intraepidermal pustules, and often marked perivascular infiltrates with neutropils.[3] Also AGEP is a disease that is rarely seen in childhood.[3] In this case the onset of the disease about five day after the administration of the cetirizine, neutrophylia, typical histopathologic examination and rapidly response to cessation of the drug lead us to the diagnosis of AGEP. The main differential diagnosis clinically and histologically is pustular psoriasis. In a number of reports patients had a history of psoriasis, however many studies agree with that AGEP is not associated with psoriasis.[4]

Antihistamines are the rare causes of the drug reactions and cetirizine induced AGEP was not reported in the literature. This rare case report is so important that clinicians should keep the possibility of this cutaneous drug reaction in mind while choosing antihistamines for children.

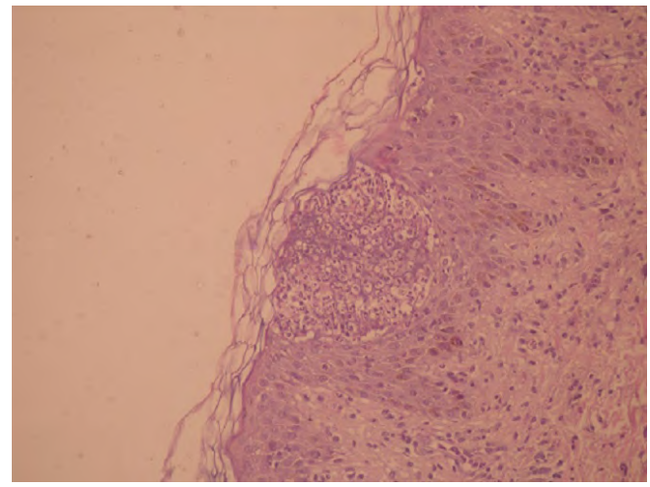


Figure 1. Subcorneal pustule formation in biopsy

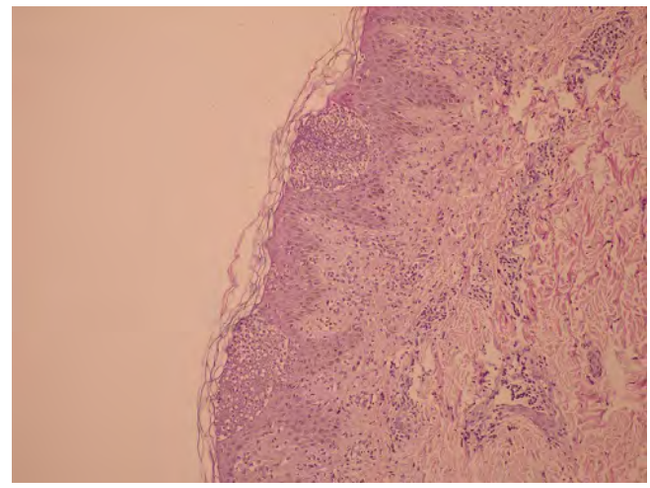


Figure 2. Perivascular neutrophylic infiltration

Competing interests

The authors declare that they have no competing interests.

References

1. Sidoroff A, Halevy S, Bavinck JN, Vaillant L, Roujeau JC. Acute generalized exanthematous pustulosis (AGEP)--a clinical reaction pattern. J Cutan Pathol. 2001 Mar;28(3):113-9. Review.
2. Soter NA. Treatment of urticaria and angioedema: low-sedating H1-type antihistamines.
J Am Acad Dermatol. 1991 Jun; 24(6 Pt 2):1084-7.
3. Meadows KP, Egan CA, Vanderhooft S. Acute generalized exanthematous pustulosis (AGEP), an uncommon condition in children: case report and review of the literature. Pediatr Dermatol. 2000 Sep-Oct; 17(5):399-402.
4. Beylot C, Doutre MS, Beylot-Barry M. Acute generalized exanthematous pustulosis. Semin Cutan Med Surg 1996 Dec; 15(4):244-9. Review.
5. Haro-Gabaldon V, Sanchez-Sanchez-Vizcaino J, Ruiz-Avila P,et al: Acute generalized exanthematous pustulosis with cytomegalovirus infection. Int J Dermatol 1996; 35:735-737.

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