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OLGU SUNUMU CASE REPORT

Pityriasis lichenoides et varioliformis acuta associated with vaccination: a case report

Aşılanma ile ilişkili pitriazis likenoides et varioliformis akuta: Bir olgu sunumu

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ABSTRACT

Pityriasis Iichenoides is a rare cutaneous disorder of clearly unknown etiology and speculated to be an inflammatory response triggered by many infectious agents. We report a case of pityriasis lichenoides et varioliformis acuta (PLEVA) in a 7 year old boy. Lesions occurred abruptly after administration of combined diphtheria, tetanus, acellular pertussis and inactivated polio vaccine (DTaP/IPV). We want to emphasize that our case is the first case report associated with this vaccine in literature and it is successfully treated with clarithromycin.

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Key words: Clarithromycin, pityriasis lichenoides et varioliformis acuta, vaccine

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ÖZ

Pitriazis likenoides, bir takım enfeksiyöz etkenler ile tetiklendiği düşünülen ve nedeni tam olarak bilinmeyen nadir bir inflamatuvar deri hastalığıdır. Biz bu makalede, yedi yaşında bir erkek çocuğunda, kombine difteri tetanoz boğmaca inaktif polio aşısı uygulanması (DBT-İPV) sonrası ani olarak gelişen bir pitriazis likenoides et varioliformis akuta (PLEVA) olgusu sunuyoruz. Klaritromisin ile başarılı bir şekilde tedavi edilen olgumuzun, literatürde bu aşı ile ilişkilendirilen ilk PLEVA olgusu olduğunu vurgulamak istiyoruz.

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Anahtar kelimeler: Klaritromisin, pitriazis likenoides et varioliformis akuta, aşı

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INTRODUCTION

Pityriasis lichenoides (PL) also called Mucha Habermann disease is a rare cutaneous disorder. It encompasses a spectrum of clinical presentation ranging from pityriasis lichenoides et varioliformis acuta (PLEVA) to pityriasis lichenoides chronica (PLC)[1]. PLEVA presents with acute erythematous papular lesions that rapidly evolve into pseudovesicles and central necrosis[2]. PLC is characterized by erythematous, scaly papules that do not evolve into necrotic lesions[3]. PLC may arise from lesions of PLEVA. PL is a benign and reactive condition. However there area few reports of PL turned into cutaneous T-cell lymphoma[4]. Side effects of combined diphtheria, tetanus, acellular pertussis and inactivated poliovirus (DTaP/IPV) vaccineare rare and usually mild[5]. Although there are a few reports of PLEVA related to measles-mumps-rubella (MMR) vaccinein the literature[3,6,7], none of PLEVA cases associated with DTaP/IPV vaccination were reported, according to our knowledge.

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CASE REPORT

A 7-year-old boy was admitted to our clinic with a 7 days history of itchy rash which started on his trunk and spread over upper extremities. The rash abruptly began one day after DTaP/IPV vaccination. Prior injection of the same vaccine had been performed without any adverse effects or complications 5 years ago. His medical history was notable for dental infection. The infection was treated with amoxicillin 9 days before the rash. He had history of rubella (German measles) 5 years ago. His physical examination was normal and there were no palpablelymph nodes. The patient had no fever. Dermatological examination revealed erythematous mildly scaly papules and papulonecrotic lesions on his trunk and arms. The lesions were prominent on his arms (Figure 1). Examination of the oral cavity and nails were normal. Histological investigation of biopsy specimen showed parakeratosis, focal spongiosi sand superficial perivascular infiltration of mononuclear cells. There were erythrocyte extravasation and minimal vacuolar degeneration of the basal keratinocytes (Figure 2). Histologic findings supported the diagnosis of PLEVA. No laboratory test and no viral serology were performed. The patient treated with clarithromycin syrup a dose of 500 mg daily and mometasone furoat 0.1% ointment for ten days. The rash improved gradually in one month and recurrence was not observed.

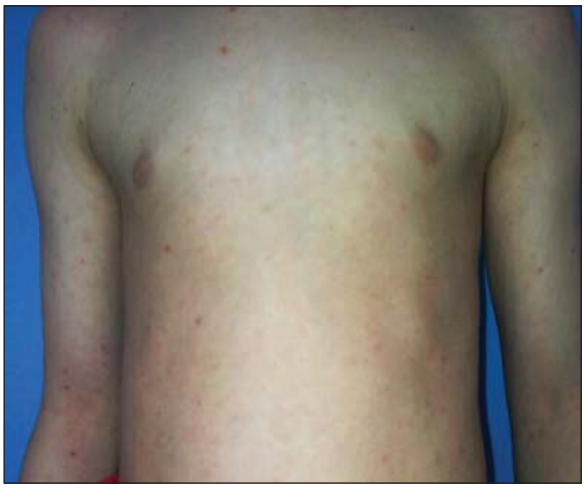

Figure 1. Erythematous mildly scaly papules and papulonecrotic lesions on the trunk and arms.

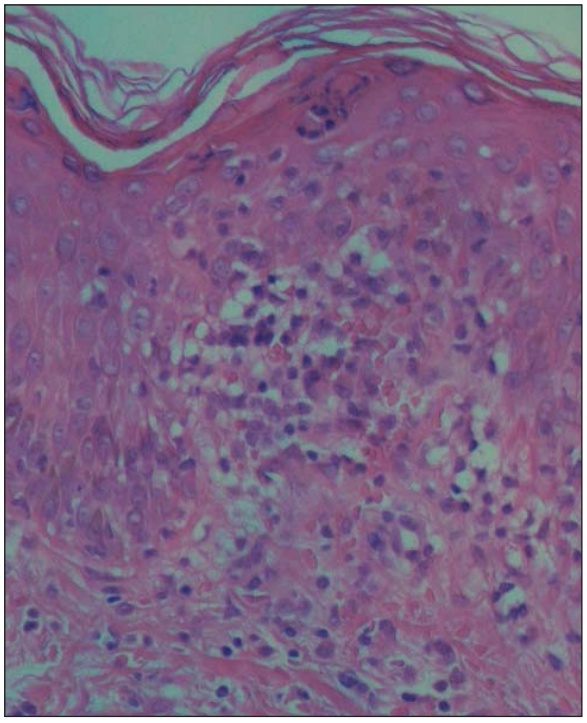

Figure 2. Parakeratosis, focal spongiosis, superficial perivascular infiltrate of mononuclear cells, erythrocyte extravasation and minimal vacuolar degeneration of the basal keratinocytes (H&E, x 400).

DISCUSSION

Pityriasis lichenoides was first described in 1894 by Jadassohn and Neisser[8,9]. It is a skin disease that affects both children and adults. Most patients present during the first 3 decades. PL during childhood ismostly seen between 5 and 10 years of age with male predominance[1]. Our case was 7 year old boy. Wahie et al. revealed important clinical differences between the adult and child populations.Larger area involvement of lesions, prominence of acral and facial involvement and dyspigmentation are characteristic features in childhood PL[10]. In our case, lesions were prominent on arms.

The differential diagnosis of childhood PLEVA includes chickenpox, pityriasisrosea, lichen planus and psoriasis[11]. In our case, there were characteristic papulonecrotic lesions of PLEVA. There were no fever, mucosal lesions and constitutional symptoms. This condition supported the diagnosis of PLEVA rather than chickenpox. There were no psoriasiform or lichenoid patterns in histological examination. Abrupt on set of papulonecrotic lesions and absence of Herald plaque supported PLEVA rather than pityriasisrosea. Patient was diagnosed as PLEVA on this typical appearance and histological findings.

Pathogenesis of PL is explained by several theories. Former studies proposed avasculiticprocess based on immunoglobulin and complement deposition in vessels[12]. Recently, a cell mediated mechanism has been proposed based on an inflammatory reaction mediated by T-cells which is triggered by an infectious agent[1]. Bacterial (*Staphylococcus*, *Streptococcus*, *Mycoplasma*), viral (Epstein–Barr virus, HIV, Cytomegalo virus, Varicella zoster virus, Parvovirus B 19) and parasitic (*Toxoplasmosis gondii*) infections have been associated with PL in the

literature[13]. Ersoy-Evans et al. revealed that 30% of cases were associated with infections[14]. Our patient hada history of dental infection treated with amoxicillin. Several drugs like tegafur, astemizoleand estrogen-progesterone have been related with PLEVA[15-17]. But amoxicillin has not been associated with the disease, in the literature.

DTaP/IPV vaccine is a combination of four inactivated vaccines that includes diphtheria and tetanus toxoids, acellular pertussis and inactivated poliovirus. The schedule for the vaccine in Turkey begins at the second month of life. Others doses are given in the 4^{th}, 6^{th}, 18^{th} months and the first class of primary school. Side effects of the vaccine are rare and usually mild such as swelling, redness and mild pain on injection site[5].

To our knowledge, there are just only three cases of PLEVA associated with vaccination in the literature. The first case was a 2.5-year-old girl in whom lesions occurred 5 days after the injection of a live attenuated measles vaccine. Gil, Bistes et al. reported a case of 5 year old Caucasian boy in whom the eruption started 10 days after the second injection of MMR vaccine. Finally, Gunatheesan et al. reported a case of 8 year old girl who received first dose of the MMR vaccine 10 days before the onset of the rash[3]. In the last two cases, eruption started 10 days after the injection. Interestingly, in our case, eruption started just one day after vaccination. Two cases above mentioned had not any history of infection or medication. This condition strongly supportedprobable association with vaccination. Our case has history of dental infection and amoxicillin usage. We hypothesized that vaccination potentiated probable antigenic stimulation caused by the infection and amoxicillinin the pathogenesis of the case. Sudden on set of the eruption after vaccination may support this hypothesis.

80 percent of pediatric PL cases were treated with erythromycin and two-thirds of these showed at least a partial response in study of Ersoy-Evans et al., Gunatheesan et al. and Gil-Bistes et al. successfully treated their cases with Erythromycin syrup. Skinner et al. reported a case of 51 year old woman in whom lesions were rapidly resolved with azithromycin[18]. Lazaridou et al. reported a case of PLEVA resistant to clarithromycin[19]. We administered clarithromycin syrup to our case and we received a satisfactory result. To our knowledge, there is no any case report of PLEVA successfully treated with clarithromycin, in the literature.

CONCLUSION

Case reports of PL associated with vaccination are extremely rare, in the literature. This is the first case report of PL associated with DTaP/IPV vaccination and the fourth case related with vaccines in general. We conclude that clarithromycin is a safe and effective treatment option like erythromycin for pediatric PL cases. It is obvious that more studies are necessary to reveal relationship between PL and vaccination, clearly.

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