

Contact Dermatitis After Temporary Henna Tattoo

Geçici Kına Dövmesine Bağlı Kontakt Dermatit

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ABSTRACT

Temporary henna tattooing has been very popular during recent years. Henna is a greenish powder made from the leaves of *Lawsonia alba* containing lawsone (2-hydroxyl-1, 4-naphtho-quinone) as the active substance. It is used alone or in combination with other coloring agents, such as para-phenylenediamine (PPD). PPD is a potent contact allergen associated with a high incidence of hypersensitivity reactions.

Key Words: Contact dermatitis, temporary tattoo, henna

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ÖZET

Geçici kına dövmeleri son yıllarda oldukça popüler olmuştur. Kına yeşilimsi toz olup *Lawsonia alba* yapraklarından oluşur ve aktif madde olarak lawsone (2-hydroxyl-1, 4-naphtho-quinone) içerir. Tek başına veya parafenildiamin (PPD) gibi renklendirici ajanlarla kombine kullanılır. PPD güçlü bir kontakt alerjen olup yüksek insidanslı hipersensitivite reaksiyonlarıyla ilişkilidir.

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Anahtar Sözcükler: Kontakt dermatit, geçici dövme, kına

INTRODUCTION

The incidence of contact dermatitis caused by henna alone is low. However, studies have showed that para-phenylenediamine—a chemical in hair dye—is responsible for most cases of contact dermatitis associated with black henna. Other chemicals in hair dye that are related to paraphenylenediamine have been implicated as causes for the contact dermatitis experienced with black henna (1-3).

CASE REPORT

A 12-year old boy was referred to dermatology outpatient clinic with 1-week history of a pruritic, erythematous, papulovesicular skin eruption on the extensor surfaces of both upper arms. Approximately 10 days before the onset of the lesion, a temporary henna tattoo was applied on his both arms during holiday. Dermatological examination revealed well-demarcated, indurated, erythematous papulovesicular eruption within the borders of the tattoo on both arms (Figure 1, 2). Personal or family history for allergic reactions or atopy were not present. Topical treatment with mometasone furoate cream and oral hydroxyzine 100 mg/day were prescribed. The lesions cleared without residual pigmentation after 2 weeks of treatment.

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Figure 1. Contact dermatitis with the same form (dragon) of the applied tattoo.



Figure 2. Erythematous papulovesicular eruption within the borders of the tattoo in close inspection.

DISCUSSION

PPD is a well-known contact allergen being used to obtain the black henna, occasionally in concentrations of up to 15%. Its use explains the high incidence of contact dermatitis in this type of tattoos (4,5). Henna tattoo may cause irritant or allergic contact dermatitis (2,3,6,7). The temporary tattoo associated type IV hypersensitivity dermatitis secondary to PPD typically occurs within three to 10 days after the temporary tattoo application. If a patient has been previously sensitised to PPD, the reaction can occur more acutely (2). In our patient, the lesions appeared approximately 10 days after the application of the tattoo. This suggests that a contact dermatitis is caused by a delayed-type IV allergy that appeared after a wide time lag of 10 days, which is typical of a first exhibition to the allergen and similar to the cases reported by Laüchl and colleauges, and Arranz et al. (4,5).

Contact dermatitis secondary to temporary tattoos with PPD may cause serious dermatological inflammation and scarring. Keloids, hyper- and hypopigmentation, and temporary hypertrichosis, particularly in children, are reported (1,6). Our patient who had a typical eczematous contact dermatitis presented with erythematous papulovesicular lesions following the shape of the tattoos, which resolved after the treatment by topical corticosteroids and oral antihistamines. In our case, allergic contact dermatitis was probably due to PPD. However, we could not confirm it with a patch test because the parent of the patient did not admit to the procedure.

The use of temporary tattoos especially among teenagers and young adults is on the rise. Also younger children put on temporary tattoos for fun or social events. Worldwide, there have been an increase in temporary tattoo contact dermatitis, particularly in children (1,2,7).

As a conclusion, although temporary henna tattoos are cheap, painless and easy-applied decorative materials, they are not safe. The use of temporary henna tattoos should be discouraged, especially in children. Physicians should be aware of the reactions to temporary tattoos. Public, particularly parents should be informed about the risks of temporary tattoos with henna and PPD.

Conflict of Interest

No conflict of interest was declared by the authors.

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