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Case Report

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Hypertrichosis due to black henna tattoo treated with 755 nm Alexandrite Laser

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ABSTRACT

Henna is the powdered leaf of Lawsonia Inermis, and has been widely used as a dye for the skin, hair and nails. Black henna is composed of henna itself with p-phenylenediamine (PPD) and used for temporary black henna tattoos. The PPD compound of the henna transforms the harmless henna to an allergenic material and generalized erythema multiforme, Sweet's syndrome, acquired leucoderma, urticaria and angioneurotic edema are the other reported rare complications of black henna tattoos. Localized hypertrichosis on the temporary henna tattoo is not a usual side effect and there are a few reports about this topic. The common point of these cases is disappearance of the hypertrichosis within 4-5 months. Notwithstanding the fact that the treatment is not certainly necessary, it could be a problem for some patients because of its cosmetic concern. This case is an example of localized hypertrichosis after henna tattoo and treated immediately with 755 nm Alexandrite Laser in one session.

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1. Introduction

Transient henna tattoos have become more popular among young adults who do not want persistent tattoos. In addition, it is popular among children on holidays. The active ingredient of henna is Lawsone (2-hydroxy 1,4-naphthoquinone) which is a natural substance (Lawsonia alba leaves). The allergic potential is weak in itself however p-phenylenediamine (PPD) or other substances (nickel and cobalt) have been added to get long lasting effect and black colour so unwanted allergic contact dermatitis or other dermatological problems arise (Hald et al., 2013). Allergic contact dermatitis and irritant dermatitis have been well demonstrated with black henna (Hald et al., 2013). Generalized erythema multiforme, Sweet's syndrome, acquired leucoderma, urticaria and angioneurotic edema are the other reported rare complications of black henna tattoos (Gulen et al., 2006; Rosmaninho et al., 2009; Kuluger and Garat, 2010). Localized hypertrichosis on the temporary henna tattoo is not a usual side effect and there are a few reports about this topic (Del Boz et al., 2008; Durmazlar et al., 2009; Kuluger and Garat, 2010). The common point of these cases is disappearance of the hypertrichosis within 4-5 months. Notwithstanding the fact that the treatment is not certainly necessary, it could be a problem for some

patients because of its cosmetic concern. This case is an example of localized hypertrichosis after henna tattoo and treated immediately with 755 nm Alexandrite Laser in one session.

2. Case presentation

A 35 year- old woman was referred to our department because of hypertrichosis on her left upper back. Her history revealed that a temporary henna tattoo was applied to her left upper back on holiday ten days ago. When the black discoloration began to fade she recognized hypertrichosis on the tattoo site. There was no edema, erythema and pruritus. Also she did not have any history of chemical usage. On examination she had hypertrichosis over the tattoo site and it was noticed that the tattoo had already been disappeared (Fig.1). Laboratory studies including hemoglobin, leukocyte count, platelet count, liver and kidney function tests, vitamin B 12 levels and hormone levels (FSH, LH, TSH) were normal. Patch test was performed with a European standard series and no reaction was observed.



Fig. 1. Localized hypertrichosis over the tattoo site

Although the patient was informed about the possible spontaneous disappearance of the hypertrichosis which was a side effect of henna tattoo within 4-5 months, she preferred the laser treatment and 755 nm Alexandrite laser was applied to that region. We observed the clearance in one session and no recurrence was seen after three months follow-up (Fig. 2).

3. Discussion

Henna is the powdered leaf of Lawsonia Inermis, has been widely used as a dye for the skin, hair and nails. Black henna is composed of henna itself with PPD and it is used for temporary black henna tattoos (Gulen et al., 2006; Durmazlar et al., 2009). The PPD compound of the henna transforms the harmless henna to an allergenic material and it was reported that the PPD compound is responsible for the contact dermatitis, urticaria, asthma, systemic allergic toxicity,



Fig. 2. Hypertrichosis was treated with Alexandrite laser

angioneurotic edema (Hald et al., 2013). Also it could trigger future sensitivities, for instance when the patient once sensitized there could be cross reactions to other hair dyes, dyes used in textiles, local anesthetics and rubber chemicals (De Groot, 2013). PPD has been identified as a major cause of active sensitization or the other side effects of black henna tattoos however, we do not know exactly whole ingredients in it. Kind et al. (2013) reported a case of an irritant contact dermatitis caused by a black henna tattoo without sensitization to PPD and they decided the dermatitis had occurred due to dyes with unknown composition in it.

The other complications of black henna tattoos are postinflammatory hyperpigmentation, lichenoid reaction, persistent leukoderma, generalized erythema multiforme, Sweet's syndrome (Gulen et al., 2006; Rosmaninho et al., 2009; Kuluger and Garat, 2010; De Groot et al., 2013; Mendiratta et al., 2009). Temporary hypertrichosis has been reported in a few studies (Del Boz et al., 2008; Durmazlar et al., 2009; Kuluger and Garat, 2010). In these reports the treatment was not used and hypertrichosis resolved spontaneously in 4-5 months. Nevertheless, we preferred to use treatment because of its cosmetic concern. In this case we used a 755 nm Alexandrite laser and the hypertrichosis disappeared suddenly in one session. In fact, the hypertrichosis appeared over the tattoo site when the tattoo began to fade. Therefore the metabolic wastes of the PPD or the other compounds of black henna could be the cause of the hypertrichosis. Although Alexandrite laser could select the henna pigment as a chromophore, disappearance of the tattoo on the region of hypertrichosis lead us to use Alexandrite laser as a treatment modality. However, Durmazlar et al. (2009) evaluated the histopathological examination of the area of hypertrichosis and reported an increase in vellus hair follicles with slight peripheral fibrosis.

Transient hypertrichosis is a rare side effect of black henna tattoos and a little information was known about

it. Although it is not persistent and it takes 4-5 months for resolution, hypertrichosis could be a serious problem especially for women. In these cases we need to select a treatment modality. In this case, we present 755 nm Alexandrite laser as a proper choice for hypertrichosis of temporary henna tattoos with sudden disappearance in one session.

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