

Case Report

A Case of Erythema Multiforme-Like Secondary to Black Henna Tatoo

Rosa Giménez-García, MD^{1*}; Susana Sanchez-Ramon, MD²; Patricia Gutierrez Garcia, MD³; Marcia Guitián-Dominguez, MD³; Delia de Lucas San Atansasio, MD³;

¹Department of Dermatology, Río Hortega Hospital, Valladolid, Spain

²Clinical Assistant Emergency Service, Hospital Río, Hortega, Valladolid, Spain

³Family Medicine Resident, Río Hortega Hospital, Valladolid, Spain

*Corresponding author

Rosa Gimenez-Garcia, MD

Associate Professor, Department of Dermatology, Río Hortega University Hospital, Calle Dulzaina 2, 47012 Valladolid, Spain; Tel. +0034670713339;

E-mail: rosagim@hotmail.com

Article information

Received: July 1st, 2018; Revised: July 13th, 2018; Accepted: July 16th, 2018; Published: July 17th, 2018

Cite this article

Giménez-García R, Sanchez-Ramon S, Gutierrez-García P, Guitián-Dominguez M, de Lucas San Atansasio D. A case of erythema multiforme-like secondary to black henna tatoo. *Dermatol Open J.* 2018; 3(1): 15-16. doi: [10.17140/DRMTOJ-3-131](https://doi.org/10.17140/DRMTOJ-3-131)

INTRODUCTION

Henna tattoos are becoming increasingly popular advertised as “harmless”. Rising incidence of allergic contact dermatitis reactions to paraphenylenediamine (PPD) in black henna tattoos has been usually described.¹⁻³ Generalized erythema multiforme to PPD is rarely reported.^{4,5} We present a case of a girl who developed a localized eczematous reaction to a henna tattoo on the dorsum of her hands followed by erythema multiforme-like lesions on her extremities

CASE REPORT

A 15-year-old girl presented to our hospital for evaluation of erythematous and edematous lesions associated with pruritus that developed some days after she had applied a black henna tattoo on the dorsum of her right hand (Figure 1A). She had no history of recent drug ingestion or herpes simplex infection. She was initially treated with antibiotics (amoxicillin/clavulanic) and dexchlorpheniramine administered intramuscularly, without success. One week later the patient developed multiple erythematous targetoid lesions characteristic for erythema multiforme on her lower extremities (Figure 1B). We established diagnosis of localized eczematous reaction to a henna tattoo on the dorsum of her hand followed by erythema multiforme-like lesions and she was treated with topical corticosteroids with good response. β -lactam skin testing was negative. The suspected PPD allergy was confirmed by patch-testing.

DISCUSSION

Natural henna, a dye extracted from the plant *Lawsonia inermis*, is commonly used among Hindu and Muslim women to stain the

Figure 1A. Erythematous and Edematous Skin Lesions on the Dorsum of the Right Hand, following Black Henna Tattoo



Figure 1B. Erythema Multiforme-like Eruption on the Thigh



skin and is relatively safe. Allergic reactions to natural henna have been rarely reported but black henna tattoos usually contains PPD, a strong sensitizing agent, which concentration has been found to be higher than regulated levels in most countries. The addition of PPD, to make tattoos darker and long-lasting, resulted in increasing number of contact sensitization.¹ Reactions to black henna tattoos include acute inflammatory reactions, infections, eczematous dermatitis, lichenoid reactions, angioedema, lymphomatoid reactions, Sweet syndrome, prurigo nodularis or vesicular-bullous lesions. Typically, black henna contact dermatitis develop within 4-14 days of tattooing (before if pre-existing sensitization).^{1,2} Erythema multiforme-like secondary to black henna tattoos is rarely observed and the mechanism involved has not yet clarified but a mediated type III involving circulating immune complex and associated type IV hypersensitivity was suggested.³⁻⁶ Sometimes lesions resolve with residual hypopigmentation.^{2,6} Patch testing confirm the allergy.

PPD, a strong sensitizing agent, is an organic dyes also present in hair dyes, dark clothing and rubber industry. Once sensitization has developed reactions may then appear with a similar structure chemicals as azo dyes, parabens, paraaminobenzoic, and para compounds. PPD can induce professional contact hypersensitivity in workers manipulating rubber, photographers, hairdressers.³

In conclusion, temporary henna tattoos can have serious consequences. Avoiding exposure to them is recommended.

CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest.

REFERENCES

1. Panfili E, Esposito S, Di Cara G. Temporary black henna tattoos and sensitization to para-phenylenediamine (PPD): Two paediatric case reports and a review of the literature. *Int J Environ Res Public Health*. 2017; 14(4). E421 doi: [10.3390/ijerph14040421](https://doi.org/10.3390/ijerph14040421)
2. Martín JM, Revert A, Alonso V, García L, Molina I, Pereda C, Jordá E. Eczema de contacto agudo a parafenilendiamina contenida en tatuajes transitorios con henna. *Actas Dermosifiliogr*. 2005; 96(6): 382-385. doi: [https://doi.org/10.1016/S0001-7310\(05\)73096-9](https://doi.org/10.1016/S0001-7310(05)73096-9)
3. Calogiuri G, Di Leo E, Butani L, Pizzimenti S, Incorvaia C, Macchia L, Nettis E. Hypersensitivity reactions due to black henna tattoos and their components: are the clinical pictures related to the immune pathomechanism?. *Clin Mol Allergy*. 2017; 10; 15: 8. doi: [10.1186/s12948-017-0063-6](https://doi.org/10.1186/s12948-017-0063-6).
4. Barrientos N, Abajo P, de Vega MM, Dominguez J. Erythema multiforme-like eruption following allergic contact dermatitis in response to para-phenylenediamine in a temporary henna tattoo. *Int J Dermatol*. 2014; 53(7): e348-50. doi: [10.1111/ijd.12285](https://doi.org/10.1111/ijd.12285)
5. Wiedemeyer K, Enk A, Jappe U. Erythema multiforme following allergic contact dermatitis: case report and literature review. *Acta Derm Venereol*. 2007; 87(6): 559-561. doi: [10.2340/00015555-0316](https://doi.org/10.2340/00015555-0316)
6. Levancini CF, Sancho MI, Serrano VE, Torres EB. Erythema Multiforme-like Secondary to Paraphenylenediamine Due to Henna Tattoo Plus Residual Hypopigmentation. *Indian J Dermatol*. 2015; 60(3): 322. doi: [10.4103/0019-5154.156455](https://doi.org/10.4103/0019-5154.156455)