



ENDGAMES

SPOT DIAGNOSIS

A pretty rash

Noha Elshimy *core medical trainee year 2*

Department of Medicine, Sandwell and West Birmingham NHS Trust, Birmingham, UK

A 24 year old woman presented with a five day history of an itchy raised rash on her left shoulder. Two weeks earlier a temporary tattoo of a flower had been drawn in the exact distribution of the rash. What is the diagnosis?



Answer

Allergic contact dermatitis in response to a black henna tattoo.

Discussion

Allergic contact dermatitis is a type IV hypersensitivity reaction.¹ Henna is a natural product derived from the plant *Lawsonia inermis*. Lawsone (2-hydroxy-1,4-naphthoquinone), also known as hennotannic acid, is the natural colouring ingredient that produces a light brown colour.² However, black henna is not natural and is produced by the addition of

para-phenylenediamine (PPD) to the 2-hydroxy-1,4-naphthoquinone molecule. Black henna is a well known cause of allergic hypersensitivity reactions, which start 48 hours to 10 days after exposure. They vary from eczematous eruptions to blistering, as well as permanent scarring including keloid formation.¹

The patient is now sensitised to PPD, which is found mainly in hair dyes, dark textile dyes, and printer ink. To prevent any further severe reactions, she should be advised to avoid coming into contact with any of these PPD containing dyes. She was initially treated with topical hydrocortisone. This was ineffective, so she consulted a dermatologist who treated her with high potency topical steroid for one week. The inflammation quickly resolved but she was left with post-inflammatory hyperpigmentation, which faded over several months. It is essential to treat these reactions with potent topical steroids at an early stage to avoid long term pigmentary changes and scarring.

Competing interests: I have read and understood BMJ policy on declaration of interests and declare the following interests: None.

Patient consent obtained.

- 1 Vasilakis V, Knight B, Lidder S, et al. Severe type IV hypersensitivity to "black henna tattoo." *BMJ Case Rep* 2010;2010. pii:bcr0920092277. doi:10.1136/bcr.09.2009.2277.
- 2 Brancaccio RR, Brown LH, Chang YT, et al. Identification and quantification of paraphenylenediamine in a temporary black henna tattoo. *Am J Contact Dermat* 2002;13:15-8.

Cite this as: *BMJ* 2015;351:h5432

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