



## Contact Allergic Dermatitis to Magic Mehendi- a Case Report

### KEYWORDS

contact allergic dermatitis, magic mehendi, paraphenylenediamine (PPD)

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**ABSTRACT** Application of Heena paste (Mehendi) by females is an integral part of all wedding & festive occasions all over India. Contact dermatitis to the traditional mehendi is extremely uncommon. There is a recent fashion trend to apply 'Magic Mehendi'. Contact allergic dermatitis to this newer Magic Mehendi is probably more common. We report here a case of a 27 years female who applied magic mehendi during her wedding and developed contact allergic dermatitis to it. Our aim of presentation is make us all aware of the increasing use of paraphenylenediamine (PPD) in magic mehendi and the potential dangers arising out of it

### Case history :

A 27 years old recently married (20 days back) female developed intensely itchy rash over her forearms and hands (mehendi area) since 5-6 days. She had history of application of double shade mehendi for her wedding. She also used to color her hair occasionally. On examination she had erythematous edematous reaction on the area where she had dark coloured mehendi but not on the normal light colour mehendi area (figure 1). She was clinically diagnosed as a case of Contact Allergic Dermatitis which was confirmed by doing a patch test (Kit used of Systopic laboratories) which showed vesicular reaction for para-phenylene diamine (PPD).

### Discussion :

Various types of hair dyes are mixed with the heena paste directly to give what is called as "black heena" or "magic mehendi". Colour of the mehendi decided by the colour of the hair dye. There is an increasing trend to use this due to option of different colours, uniform darker appearance in almost all, longer stay, ease of application and less time consuming (< 1 hr) compared to traditional mehendi which is kept to dry up after application for 6-8 hrs.

Paraphenylenediamine (PPD) is used as an oxidizing agent (permanent hair dye) and is sometimes adulterated with natural heena to get "black heena". But Hair dye still remains the main source of exposure. It also has cross sensitivity with para amino group chemicals like PABA, benzocaine, sulphonamides, azo and aniline dyes<sup>1</sup> (sunscreens, perfumes, printer ink, textile dye, photographic developers.

The scientific name of Mehendi is Lawsonia Inermis. Ancient Indian literature is flooded with its use for luck, joy, beauty and health. In India it is abundantly found in Pali district of Rajasthan. The color of mehendi is due to a chemical Lawsons which has affinity for bonding with protein.

Egyptian beauties like Cleopatra and Nefertiti used to dye their hair. Modern hair coloring was made popular by Lucille Ball in 1960 in her famous TV comedy show titled I Love Lucy. In 1990s heena artist experimented with PPD which caused intense itch, blistering and scarring. In addition to PPD silver nitrate, chromium, carmine pyrogallol

and are used as adulterants to colour the hair but may cause allergy.

Contact dermatitis to hair dye is common (0.1 to 2.3%)<sup>2</sup>. Allergens (like PPD) applied to the scalp most often produce "run off" patterns of dermatitis on the forehead & lateral face eyelids, ears, neck & hands, whereas the scalp remains uninvolved - scalp is resistant to contact dermatitis<sup>3</sup>. In 1933 the use of PPD in mascara "Lash Lure" led to blindness in more than 12 women<sup>4</sup>. PPD is banned in some countries like Germany. EU allows only < 6% PPD in hair dye products<sup>5</sup>. Until recently PPD in cosmetic products were for application to hair only and not skin.

Thus, with this case we want to highlight and make us all aware of the increasing use of PPD in magic mehendi (double shade) in the near future and potential dangers arising out of it.



**Figure 1 : Marked erythematous and edematous reaction at dark coloured mehendi site**

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