Colored dots on trichoscopy—beware of artifacts

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CLINICAL CHALLENGE

Successful trichoscopy, which is essential for evaluating scalp and hair disorders, warrants cognizance of artifacts that may mimic specific disorders. The peripilar sign, which is characterized by a perifollicular brown halo, is a specific finding of early androgenetic alopecia that reflects perifollicular inflammation.[1] Many young patients use hair dyes and henna on account of premature canities. These chemicals penetrate hair follicles, giving a pseudoperipilar sign that is suggestive of early androgenetic alopecia (Fig 1). Confusion may also arise upon observation of colored dots simulating vessels or yellow dots stemming from the use of vermillion powder (traditionally applied over the anterior frontal hairline by married women of many Asian ethnicities) and powdered colors applied during Holi (the Indian Festival of Colors) (Fig 2).

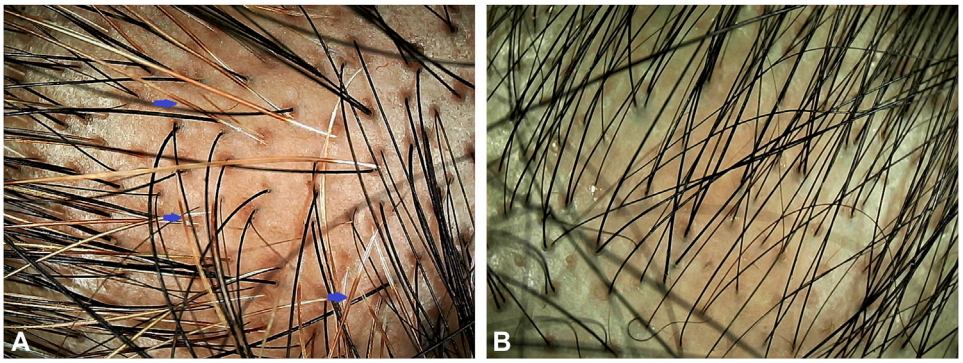

Fig 1. A, Brown halos around the hair follicle on trichoscopic examination in a 26-year-old man who came for consultation regarding premature canities. Although this pseudoperipilar sign may lead the clinician to consider early androgenetic alopecia, the lack of typical features of androgenetic alopecia, especially hair diameter diversity (which is clearly less than 10%) and presence of dyed hair shafts (*blue arrows*) rule out the possibility. The patient had a history of using a semipermanent hair dye every 3 to 4 weeks for his canities. **B**, True peripilar sign in a 25-year-old man with clinically appreciable androgenetic alopecia (Hamilton-Norwood grade 3). The peripilar brown halos are accompanied by typical trichoscopic features of androgenetic alopecia, namely, overall miniaturization of follicles, hair diameter diversity greater than 20%, and presence of focal atrichia. (**A**, E-scope video dermatoscope, Timpac Healthcare Pvt Ltd, New Delhi, India, polarized mode; original magnification, ×20.)

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Fig 2. **A**, Trichoscopic image from the anterior frontal region of the scalp of a married 30-year-old woman with female androgenetic alopecia. The presence of multiple scattered red dots may be confused with vessels; however, they are due to sprinkled particles of vermillion powder applied ritually over the anterior frontal hairline. Note the overall background color of pink-to–faint red, irregularly shaped red globules and clods (*yellow arrows*) and a dusky red pseudonit (*white arrow*), confirming the artifactual origin. **B** and **C**, Trichoscopic image from the midfrontal region of the scalp of a young adult man who was seen for dandruff in March, which is the typical month for celebrating the Festival of Colors in India. Apart from widespread white pseudonits that were suggestive of dandruff, dots and clods of multiple colors—pink (*red arrow*), yellow (*yellow arrow*), and green (*green arrow*)—were visible. The multicolored background, the shiny nature of the dots, and the patient's positive history of having played with Holi colors without proper shampooing 4 days previously confirmed the findings to be artifactual (**B**). Higher-magnification view the midfrontal region of the young man's scalp (**C**), confirming the suspicion. The irregularly shaped and multilayered pink clods (*white arrows*) and irregular yellow dot consisting of scattered pink granules are due to residual powdered colors used for playing. (**A**-**C**, E-scope video dermatoscope, Timpac Healthcare Pvt Ltd, New Delhi, India, polarized mode; original magnifications: **A** and **B**, ×20; **C**, ×70.)

SOLUTION

Trichoscopists should routinely determine patients' specific history of use of hair dye (or henna) and its color and type, as well as the number of shampoo washes between the application and day of trichoscopic evaluation. Knowing the type and longevity of dyes (ie, demipermanent, semipermanent [including henna], or temporary dyes [which last up to 20, 3-6, and a single shampoo wash, respectively])[2] is equally vital to discern the validity of the observed peripilar sign. Dyed hair shafts (Fig 1, *A*) and patchy discoloration of the interfollicular scalp are highly suggestive of pseudoperipilar sign. Clinical suggestion of use of vermillion or colored powder(s) and presence of colored background, multicolored "shiny" dots and colored pseudonits (Fig 2) on dermoscopic examination confirm the actual origin of these artifacts. Trichoscopy after a thorough cleansing of the area with spirit/acetone or upon recalling the patient after a head wash definitely helps.

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