

## A Tricky Case of Hair Loss in a Child: Trichoscopy Saves the Day

Dear Editor,

A 7-year-old, otherwise healthy Indian girl presented with asymptomatic sparsening of hair on the sides and posterior scalp of 6 months duration. The parents reported no improvement with oral iron and multivitamin supplements taken for 3–4 months, betamethasone, and 2% minoxidil lotion applied for 2–3 months, and three doses of weekly oral fluconazole 50 mg. Examination revealed numerous coalescing patches of nonscarring alopecia, with the left parieto-occipital scalp being more involved [Figure 1]. There was mild scalp scaling but no visible broken hair shafts or exclamation-point hair. Hair pull test was negative. A 10% potassium hydroxide (KOH) mount preparation of hair shafts from multiple areas was negative for fungal elements. Specimen was also sent for fungal culture. Provisionally, differential diagnoses of noninflammatory tinea capitis (TC), diffuse alopecia areata (AA), and trichotillomania (TTM) were considered. Trichoscopy using a hand-held dermoscope (Heine Delta® 20T) under polarized light ( $\times 10$ ) revealed several “comma,” and “corkscrew” hairs in addition to few black dots and focal scale-crust. A dead head louse was also detected incidentally, however, no nits were visualized [Figure 2]. In the absence of defining trichoscopic features of AA or TTM, and the unmissable presence of typical trichoscopic features of TC, the patient was treated with oral terbinafine (125 mg/day) and 2% ketoconazole shampoo. Our diagnosis of TC was reaffirmed when the fungal culture reported growth of *Trichophyton violaceum*. The child achieved complete clinical cure by the 6<sup>th</sup> week of treatment initiation. The utility of trichoscopy is being increasingly recognized in the diagnosis of alopecia in children. The dermoscopic features of various

causes of alopecia, including AA, TTM and TC are now well-recognized.<sup>[1]</sup> The trichoscopic features of TC vary in inflammatory and noninflammatory variants. While the typical black-dot tinea is characterized black dots and short broken hair, inflammatory variant shows additional features such as erythema, scaling, pustules and follicular scale-crusts. Though black dots and broken hair are non-specific findings that can also be seen in AA and TTM, presence of comma, corkscrew and zig-zag hairs are specific to TC.<sup>[2,3]</sup> “Comma hair,” observed in both endothrix and ectothrix-infections appear as slightly curved hair shafts, fractured close to the scalp surface and result from hyphal invasion of the hair shaft.<sup>[2,3]</sup> Corkscrew and zigzag hair represent variations of the comma hair.<sup>[2,3]</sup> The trichoscopic hallmarks of AA are exclamation mark hairs and yellow dots,<sup>[4]</sup> while TTM shows broken hair shafts of uneven length, follicular hemorrhage, trichoptilosis, tulip hair, flame hair, and other specific features, which were absent in our patient.<sup>[5]</sup>

The clinical pattern of alopecia was not very typical of TC in our patient, with diffuse nonscarring alopecia, minimal inflammation, and a negative hair pluck test. A negative KOH rendered the diagnosis tricky. Fungal culture, the gold standard of diagnosis of TC, takes approximately 4 weeks for growth of dermatophytes. The correct diagnosis was initially suggested by trichoscopy that showed characteristic comma and corkscrew hairs, which allowed us to start the treatment early. The diagnosis of TC was later confirmed by a positive fungal culture. With this report, we wish to highlight the utility of dermoscopy as a quick, simple and noninvasive technique in the differential diagnosis of nonscarring alopecia in children and as an aid in instituting the optimal treatment without delay.



**Figure 1:** Patchy-to-diffuse hair loss in a 7-year-old girl; more prominent on the left side of the scalp

**Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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**Conflicts of interest**

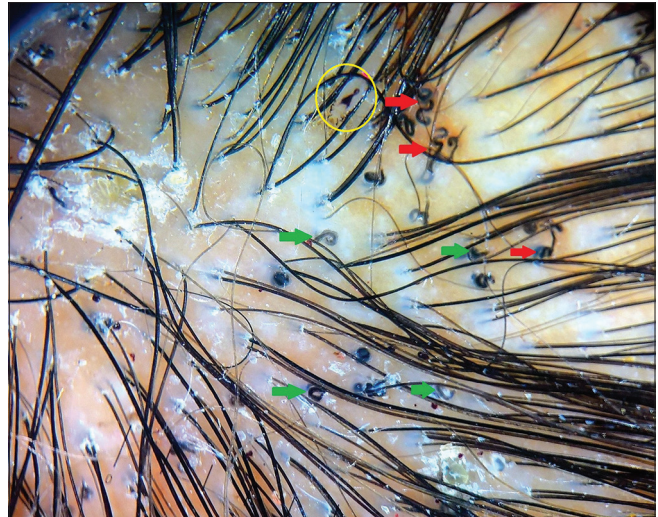
There are no conflicts of interest.

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**Figure 2:** Trichoscopy [Polarized, 10×] showing multiple comma hairs (green arrows), corkscrew hairs (red arrows), in addition to black dots and focal scale crust. A dead head louse was seen incidentally (Yellow circle)

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