Monilethrix

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Cite as: *CMAJ* 2018 July 30;190:E912. doi: 10.1503/cmaj.180273

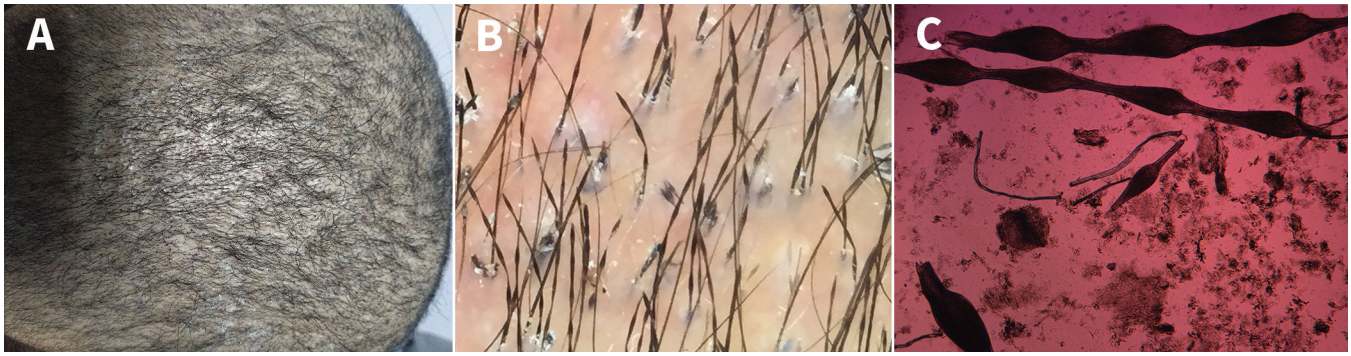

Figure 1: A) The scalp of a three-year-old girl with monilethrix showing diffuse hair loss and hair of different lengths. B) Trichoscopic image showing uniform elliptical nodes, separated by intermittent constrictions. C) Microscopic image showing broken hair shafts at internode levels and monilethrix.

A three-year-old girl was referred to our dermatology clinic with a two-year history of hair loss. She was otherwise healthy, and there was no family history of similar alopecia. Before our consultation, she had received treatment with topical antifungal treatment (2.5% selenium sulfide shampoo) for six months.

We observed diffuse hair loss and hair of different lengths, and trichoscopy showed multiple monilethrix hair shafts characterized by uniform elliptical nodes that were separated by intermittent constrictions (Figures 1A and B). Broken hair shafts at internode levels were also evident under microscopy (Figure 1C). Her nails were normal. We diagnosed monilethrix and ordered a genetic screen, which was negative.

The term monilethrix derives from both the Latin monile (necklace) and the Greek thrix (hair). It is an uncommon autosomal dominant disorder that has been associated with mutations in type II hair keratin genes located on chromosome 12q13 (*KRT81*, *KRT83* or *KRT86*).[1] Affected hair breaks easily and is distributed typically toward the top of the head, and on the nape and occipital areas. Trichoscopy, a simple and noninvasive dermoscopy technique, shows a beaded appearance caused by regular constrictions of the shaft in monilethrix.[2,3]

Typically, monilethrix appears during early childhood and may resolve spontaneously in puberty. In addition to avoiding mechanical damage caused by combing and hair washing, minoxidil in topical or oral formulations is a promising treatment.[4]

We prescribed 2.5% minoxidil solution for our patient. After two months of treatment, we found improvement in hair density clinically and under trichoscopy. She will have ongoing follow-up.

References

1. Horev L, Glaser B, Metzker A, et al. Monilethrix: mutational hotspot in the helix termination motif of the human hair basic keratin 6. *Hum Hered* 2000; 50:325-30.
2. Sharma VK, Chiramel MJ, Rao A. Dermoscopy: a rapid bedside tool to assess monilethrix. *Indian J Dermatol Venereol Leprol* 2016;82:73-4.
3. Baltazard T, Dhaille F, Chaby G, et al. Value of dermoscopy for the diagnosis of monilethrix. *Dermatol Online J* 2017;23. pii:13030/qt9hf1p3xm.
4. Sinclair R. Treatment of monilethrix with oral minoxidil. *JAAD Case Rep* 2016; 2:212-5.

Competing interests: None declared.

This article has been peer reviewed.

The authors have obtained parental consent.

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