

Successful Treatment of Temporal Triangular Alopecia with Topical Minoxidil

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Dear Editor:

Temporal triangular alopecia (TTA) was first described by Sabouraud¹ and it presents as an oval-shaped alopecic patch, confined to the frontotemporal scalp. If left untreated, the alopecic patch persists throughout the entire life.

A 1-year-old girl had a bald patch on her scalp since birth. The size of the lesion had been stable recently, but it began to increase slightly. She had no significant past medical history. Physical examination revealed a 2.5 cm×1.0 cm oval-shaped alopecic patch on the right frontotemporal scalp (Fig. 1A). No hair nor erythema, induration, scarring or exclamation mark hair was found. After a suspected diagnosis of TTA, 3% topical minoxidil was experimentally applied to the lesion. After two months of 3% topical minoxidil treatment, hair began to grow on the alopecic patch (Fig. 1B). However, when the patient's mother stopped applying the medication due to irritation, hair loss resumed at the same site (Fig. 1C). After restarting the treatment, the hair on the site was re-grown after 1 month. After nine months of treatment, the alopecic patch was packed with hair, which had a similar thickness to the intact hair around the lesion (Fig. 1D). To test the endurance of the curative effect, we again stopped treatment and observed the response. However, 1 month after the discontinuation of treatment, the patient visited the office with a recurrence of hair loss. The relapsed lesion exhibited low hair density and hair thinning (Fig. 1E). A biopsy specimen from the relapsed lesion revealed that the total number of hairs were in the normal range

with an increased portion of vellus hairs and miniaturized hair follicles. We could differentiate alopecia areata because there was an absence of peribulbar inflammation and exclamation mark hair. Given the clinical and histological findings, the diagnosis of TTA was made. After restarting and maintaining the 3% topical minoxidil treatment, normal diameter hairs have regrown and have been well-maintained until now (Fig. 1F).

TTA is a non-scarring alopecia that is characterized by stable and asymptomatic alopecic patches². It mostly appears at birth or during the first 9 years of life³. The pathogenesis of TTA is still unknown, but it has been proposed that localized follicular miniaturization could contribute to its development.

Trakimas et al.⁴ suggested a rationale for the usage of minoxidil as treatment for TTA, because minoxidil can prevent the localized process of hair follicle miniaturization. In this study, terminal hair growth was observed and alopecia was improved with minoxidil treatment; however, the progression of localized follicular miniaturization was observed shortly after the discontinuation of treatment.

To date, patients diagnosed with TTA have only been treated with complete excision or hair transplantation⁵. However, our patient's clinical course validated the effectiveness of minoxidil treatment for TTA. Therefore, we report the first successful treatment of TTA with 3% topical minoxidil. We also suggest that TTA may be related to the dysregulation of hair cycle and further, topical mino-

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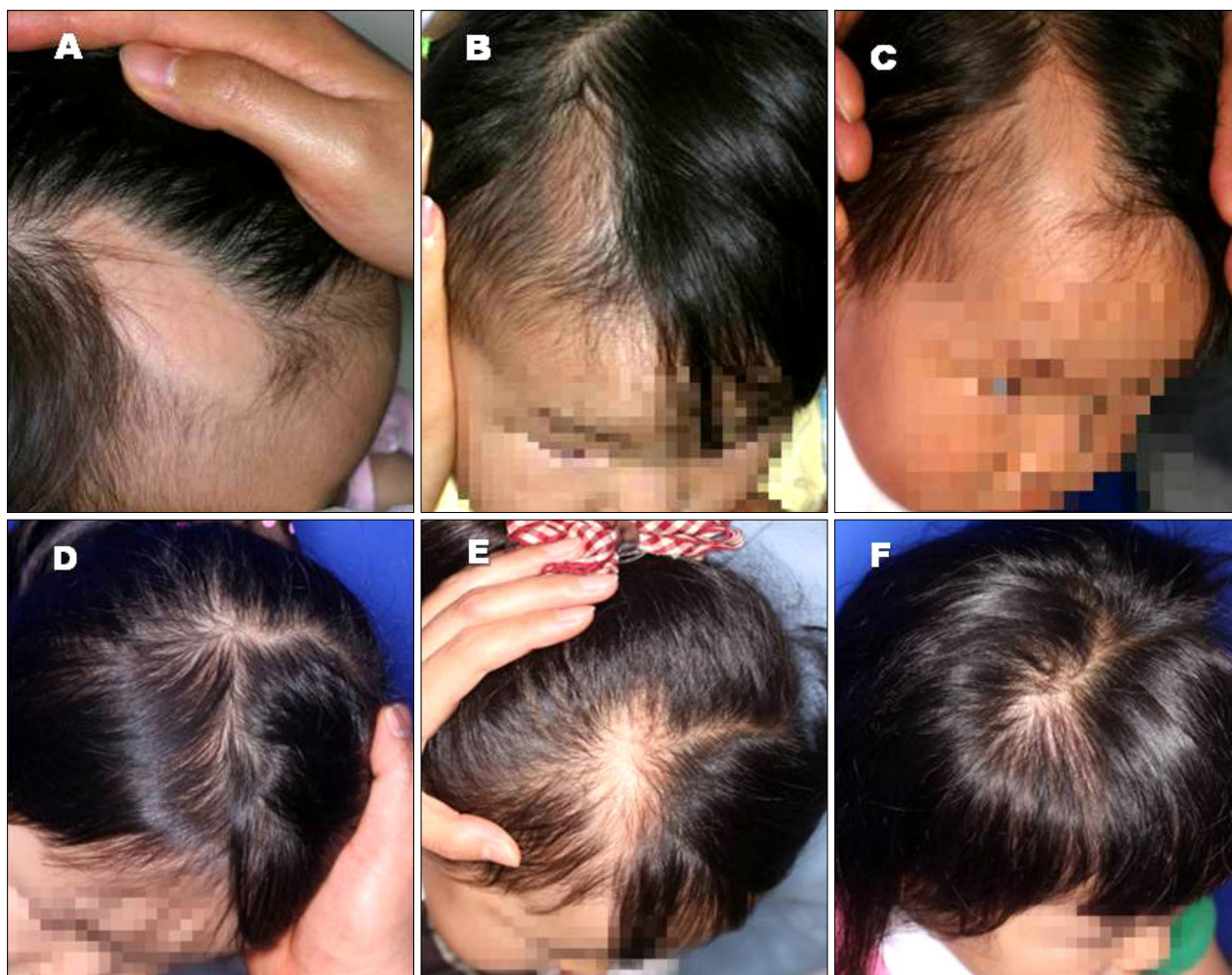


Fig. 1. (A) 2.5×1.0 cm oval-shaped alopecic patch on the right frontotemporal scalp. (B) Hair was observed on the alopecic patch after applying 3% topical minoxidil (1 years old). (C) The girl showed recurrent hair loss at the same site when treatment was discontinued. (D) After restarting the treatment, the alopecic patch was packed with hair, which was similar in thickness to intact hair around the lesion (3 years old). (E) Recurrence was observed 1 month after the discontinuation of treatment. (F) After restarting the topical minoxidil treatment, normal diameter hairs have been maintained well until now.

xidil treatment might be applicable for the treatment of other TTA cases.

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REFERENCES

1. Sabouraud R. Manuel élémentaire de dermatologie topographique régionale. Paris: Masson et cie, 1905:197.
2. Erickson Q, Yanase D, Perry V. Temporal triangular alopecia: report of an African-American child with TTA misdiagnosed as refractory tinea capitis. *Pediatr Dermatol* 2002; 19:129-131.
3. Kubba R, Rook A. Congenital triangular alopecia. *Br J Dermatol* 1976;95:657-659.
4. Trakimas C, Sperling LC, Skelton HG 3rd, Smith KJ, Buker JL. Clinical and histologic findings in temporal triangular alopecia. *J Am Acad Dermatol* 1994;31:205-209.
5. Chung J, Sim JH, Gye J, Namkoong S, Hong SP, Kim MH, et al. Successful hair transplantation for treatment of acquired temporal triangular alopecia. *Dermatol Surg* 2012;38:1404-1406.