

CASE REPORTS AND SHORT REPORTS

Long-pulsed Nd:YAG laser in the treatment of facial hypertrichosis during topical minoxidil therapy

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Abstract

Hypertrichosis is a well-recognized adverse effect of therapy with either oral or topical minoxidil. We report a case of fronto-temporal hypertrichosis occurring in an 8-year-old girl treated for patchy alopecia areata of the frontal area of the scalp with 2% minoxidil solution. After failure of 5-months minoxidil-discontinuation, hair removal with Nd:YAG laser (1064 nm line) (Smartepil II, Deka) was tested leading to complete resolution within 2 sessions.

Key Words: *child, minoxidil, Nd:YAG laser*

Sir,

Minoxidil is a piperidinopyrimidine derivative, highly effective in severe hypertension that is unresponsive to other medications. Excessive facial hair growth has been reported as an adverse event, with the use of minoxidil either systemically or topically (1). We report an original case of fronto-temporal hypertrichosis in a child treated for frontal alopecia areata with topical minoxidil. After failure of 5-months minoxidil-discontinuation, hair removal with Nd:YAG laser was tested leading to complete resolution within 2 sessions.

An 8-year-old girl was followed in our dermatology department for patchy alopecia areata of 2 month-duration. There was no past medical history. Examination revealed a stressful family event in the 4 months preceding hair loss. Physical examination showed a type IV skin phototype, and the presence of 4 frontal patches of hair loss interesting 25% of scalp surface, associated with alopecia areata of eyelashes and eyebrows. There was no body hair loss, neither nail involvement. She was treated initially with midpotent corticosteroid for 2 months-duration with no improvement, leading to the application of 2% minoxidil solution on the scalp. The follow-up at 2 months revealed total terminal hair growth in alopecia areata's patches, but she

developed hypertrichosis of forehead, temples and over the malar prominences (Figure 1a, b). Five months after discontinuing topical minoxidil, the abnormal hair did not disappear inducing severe psychosocial disturbances. Therefore, hair removal with long pulsed Nd:YAG laser (1064 nm line) (Smartepil II, Deka) was decided after parental consent. Topical anesthetic cream was applied 30 min before each treatment session and hairs were cut close to the skin. Two consecutive treatment sessions were given at 4 week-intervals. The fluences used were between 60 J/cm² and 75 J/cm² with a spot size of 4 mm. Adverse effects were mild pain, erythema and perifollicular edema. The outcome was good with total reduction of facial hypertrichosis (Figure 2a, b), and no recurrence after a follow-up of 12 months.

Minoxidil is a potent oral vasodilator, which if given systemically or topically is able to convert vellus to terminal hair (2). Although minoxidil is not approved by the FDA for treating children AA, topical twice-daily minoxidil 2% had been used in this indication in many reports of the literature (3,4). Because of midpotent corticosteroid failure in our patient, the adjunction of 2% minoxidil solution on the scalp was required.

Price (5) has described facial hypertrichosis in men, women and children using either 3% or 5%

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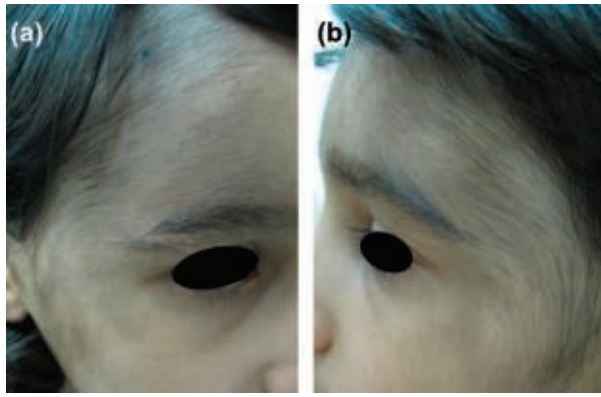


Figure 1. (a, b) Hypertrichosis of forehead, temples and over the malar prominences after Minoxidil 2% application.

topical minoxidil for alopecia areata. Severe hypertrichosis of the face and the limbs was also reported in 3 women under treatment with 5% topical minoxidil (6). Dawber and Rundegren (1); in a clinical trial involving a total of 1333 women, reported excessive facial hair growth in 4% of patients in a dose-related pattern of response. The distribution of unwanted facial hair growth is generally symmetric and located above the eyebrows, over the malar prominences and on the lateral side of cheeks (7), as seen in our patient.

The mechanism of minoxidil-induced hypertrichosis is still unknown. Some authors have suggested a dose-dependent effect resulting from systemic absorption (8), others have incriminated an inadvertent spread of residue of minoxidil on to the face or hands (1).

The minoxidil hypertrichotic effect is mostly reversible within 3 to 5 months even without discontinuation of therapy (1,5,6). For our patient, unwanted facial hair growth persisted 5 months after withdrawal of topical minoxidil inducing some

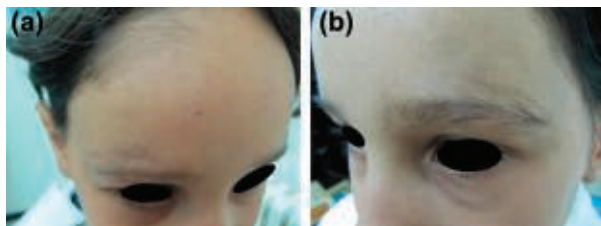


Figure 2. (a, b) Total removing of hypertichosis after 2 sessions of Nd:YAG laser 1064 nm.

psychosocial disturbances. Therefore, hair removal with a long pulse Nd:YAG laser was decided.

The field of laser-assisted hair removal has seen major advancements in the last decade. With the use of longer wavelength and efficient cooling devices, laser can now be used safely even for all skin phototypes (9). There is no consensus on the precise age limit for laser hair removal, but it is generally recommended to start treatment above 15 years of age. For our young patient, in view of the severe impact induced by hypertrichosis, a hair removal laser therapy was indicated after proper considerations and after parental consent. Given the patient's darker skin type, a long pulse Nd:YAG laser (1064 nm) was chosen. Laser treatment was effective and well-tolerated with minor side effects.

We can conclude that facial hypertrichosis is a well-recognized adverse effect of therapy with topical minoxidil. It is generally a reversible effect requiring discontinuation of therapy; however in cases of persisted excessive hair growth treatment with laser hair removal may be indicated.

Declaration of interest: The authors report no declarations of interest. The authors alone are responsible for the content and writing of the paper.

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