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THERAPEUTIC HOTLINE: LETTER

Case series of oral minoxidil for androgenetic and traction alopecia: Tolerability & the five C's of oral therapy

Dear Editor,

Topical minoxidil is an effective, FDA-approved treatment for androgenetic alopecia (AGA) (Dinh & Sinclair, 2007) and has also been shown to help traction alopecia (TA) (Khumalo & Ngwanya, 2007). However, some patients may find its use inconvenient or costly. Orally, minoxidil is prescribed as an antihypertensive with potential cardiac side-effects such as edema, pericarditis, or pericardial effusion (Weber et al., 2014). Approximately 80% of its users develop hypertrichosis with elongation and thickening of hair at various sites including the scalp (Pfizer Canada, 2013). However, potential cardiovascular effects may discourage its prescription for hair loss by dermatologists. This case series details the tolerability and adherence rates of oral minoxidil for treatment of AGA or TA.

Using the electronic medical records (EMR; YES EMR, Toronto, Canada) of two dermatology clinics, patients with AGA or TA who were prescribed oral minoxidil from December 2016 through January 2018 were identified. These patients were diagnosed clinically by the author (RAB). They had previously used topical minoxidil and were seeking alternate treatment. Accordingly, they were prescribed oral minoxidil 1.25 mg nightly. This dose was determined in 2016 after reviewing reports of successful hair growth with 1 mg dosing (Sinclair, 2016; Yang & Thai, 2015), and based on the availability of a 2.5 mg tablet in Canada, which was halved. All patients were informed about the drug's indication and side-effect profile (Pfizer Canada, 2013). Patients with prior hypotension, cardiac comorbidities, or lack of prescription contraception were not prescribed the medication.

Clinic notes were assessed for prescription compliance, reports of side-effects, and other unique details. All patients prescribed minoxidil, regardless of their adherence to the prescription, were included in this as-treated analysis.

The search identified a total of 20 patients (18 women and two men, average age 41 years old) who were prescribed oral minoxidil (Table 1). Patients with a primary diagnosis of AGA (16 patients; 80%) or TA (four patients; 20%) were prescribed an initial 3-month course. Eighteen out of 20 patients filled their prescription for oral minoxidil (90%); two were discouraged by prescription warnings. The medication was continued by 14/18 (78%) patients at reassessment. Patients who discontinued oral minoxidil cited aversion to pills (2), forgetfulness (1), and headache with stress of a new job (1). The average duration of prescription use across all 18 patients was 6 months.

Blood pressure monitoring was requested of all patients. Among 9 patients who monitored their blood pressure, it either remained within normal range (7 patients) or improved from hypertensive levels (two patients). One patient (6%) reported hypotensive symptoms and urticaria for 8–10 days. No patients experienced significant cardiac morbidity.

Six of 18 patients (33%) reported decreased hair shedding, while five patients (28%) reported increased scalp hair (5/18). Hypertrichosis was reported in 39% (7/18) on the face (most commonly the skin lip) and arms, yet all affected patients continued therapy due to its perceived benefit for their scalp hair.

Aside from tolerability, there are 5 practical advantages of this therapy—the 5 *C*'s of oral minoxidil. It may be more *convenient* to swallow minoxidil than to apply it topically, especially for patients who do not wet their hair daily. Patients noted enhanced *cosmesis*, because prescription oral therapy did not distort gray hair color or generate product residue. At $37 CDN (USD $28.60) for a 3 months' supply, oral minoxidil offered *cost-savings* relative to the topical over-the-counter product. *Co-therapy* such as application of commercial keratin fibers to visually enhance fullness was simpler without use of competing topical minoxidil on the scalp. Finally, 78% of patients continued oral therapy at last follow-up, thus demonstrating good *compliance*. With other recent reports indicating therapeutic benefit of oral minoxidil (Perera & Sinclair, 2017), subsequent investigations that objectively measure scalp hair growth and help establish optimal dosing of oral minoxidil should be considered.

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TABLE 1 Minoxidil 1.25 mg nightly patient case series: Side-effects, compliance, and duration of use

Patient	Age, sex	Diagnosis[a]	Blood pressure	Hypotensive symptoms	Fluid retention	Hair shedding	Hyper-trichosis	Minoxidil compliance	# of Rx months
1	33, M	AGA	Not checked	No	No	No	No	Stopped - stressed	6.5
2	33, F	AGA, TE	Improved	No	No	Decrease	Yes	Yes	15.25
3	37, F	AGA	n/a	n/a	n/a	n/a	n/a	Rx not filled, hypertrichosis concern	0
4	29, F	AGA, AA	Normal	No	No	No	No	Yes	10.5
5	25, F	AGA	Not checked	No	No	No	Yes	Stopped – Pill aversion	5
6	62, F	AGA	Not checked	No	No	Decrease	Yes	Yes	5.25
7	48, F	AGA	Normal	Yes, 1–2 weeks	Ankle edema	No	Yes	Yes	5.25
8	29, F	TA, AGA	Normal	No	No	No	Yes	Yes	5.5
9	54, F	AGA, FFA	Normal	No	No	Decrease	No	Yes	3
10	42, F	AGA	Not checked	No	No	Decrease	Yes	Yes	3
11	32, M	AGA, Seb D	n/r	n/r	n/r	n/r	n/r	Yes	5.5
12	20, F	AGA	Normal	No	No	No	Yes	Yes	8
13	54, F	AGA, FFA	n/a	n/a	n/a	n/a	n/a	Stopped – Topical used	0.5
14	32, F	TA	Not checked	No	No	No	No	Yes	3
15	57, F	AGA	n/a	n/a	n/a	n/a	n/a	Rx not filled, side effect concerns	0
16	25, F	TA	Not checked	No	No	No	No	Yes	14
17	65, F	AGA	Normal	No	No	No	No	Yes	7.75
18	28, F	TE, TA	Normal	No	No	No	No	Stopped – Pill aversion	1.5
19	54, F	AGA	Improved	No	No	Decrease	No	Yes	8.5
20	52, F	AGA	Not checked	No	No	Decrease	No	Yes	10.5

AGA = androgenetic alopecia; FFA = frontal fibrosing alopecia; Seb D = seborrheic dermatitis; TA = traction alopecia; TE = telogen effluvium; n/a = not applicable; n/r = no response provided; requested renewal of medication.

[a] For patients with two hair diagnoses, the more dominant presentation was deemed the primary diagnosis and is listed first.

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