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 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.

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,       | 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                  | Decrease      | Yes          | 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     | Yes            | Yes                  | 3              |
| 10      | 42, F    | AGA         | Not checked    | No                  | Decrease      | Yes          | Yes            | Yes                  | 3              |
| 11      | 32, M    | AGA, Seb D  | n/r            | n/r                 | n/r            | n/r          | Yes            | 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,       | 0              |
| 16      | 25, F    | TA          | Not checked    | No                  | No             | No           | No             | No                   | 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                  | Decrease      | No           | Yes            | Yes                  | 8.5            |
| 20      | 52, F    | AGA         | Not checked    | No                  | Decrease      | No           | Yes            | 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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