Author/s:
Sinclair, R;Trindade de Carvalho, L;Ferial Ismail, F;Meah, N

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DR. LARA TRINDADE DE CARVALHO (Orcid ID : 0000-0001-8540-0983)

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Treatment of male and female pattern hair loss with sublingual minoxidil: a retrospective case-series of 64 patients

Rodney Sinclair

MBBS, MD, FACD

Sinclair Dermatology, Victoria, Australia

University of Melbourne, Victoria, Australia

Epworth Healthcare, Victoria Australia

Lara Trindade de Carvalho (corresponding author)

MBBS

Sinclair Dermatology, Victoria, Australia

2 Wellington Pde, East Melbourne, Victoria, Australia

Email: lara.carvalho@sinclairdermatology.com.au

Telephone: +61426422861

Fathima Ferial Ismail

MBBS, BMedSci

Sinclair Dermatology, Victoria, Australia

Nekma Meah

MBChB, MRCP (UK)

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Sinclair Dermatology, Victoria, Australia

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Main Text

Low-dose oral minoxidil (0.25mg daily) has been successfully used in combination with spironolactone in the treatment of female pattern hair loss (FPHL)[1]. Oral minoxidil (5mg daily) has been shown to be efficacious in male pattern hair loss (MPHL)[2,3]. The objective of our study was to evaluate the efficacy and safety of low-dose sublingual minoxidil (0.45mg daily) in MPHL and FPHL. Sublingual administration bypasses hepatic metabolism, thereby increasing bioavailability compared with oral administration.

We retrospectively reviewed all patients seen at our specialist hair clinic with MPHL and FPHL treated with sublingual minoxidil monotherapy for $\geq$ 6 months between July 2017 and May 2019. Sixty-four patients (33 males and 31 females) were included. The mean age was 50.92 years (range 17 to 76 years). The starting dose of minoxidil was 0.45mg daily. In 19 patients the dose was increased to 0.9mg daily at 3 months.

Patients were reviewed at 3-monthly intervals. Clinical photographs were scored using the Sinclair stage[4], a 5-point scale for grading the severity of AGA, in males and females, and the Investigator Global Assessment (IGA)[5] of the vertex area in males, for each time period.

The mean Sinclair stage at baseline was 2.77. The mean reduction in Sinclair stage for all patients was 0.33 at 3 months, 0.53 at 6 months, 0.81 at 9 months and 1.07 at 12 months. The mean reduction in Sinclair stage for males and females are shown in Table 1. The mean

change in IGA for males was 1.23 at 3 months, 1.67 at 6 months, 2.11 at 9 months and 2.63 at 12 months. These results are summarised in Table 2.

The Sinclair hair shedding score[1], a 6-point scale for grading the severity of hair shedding, was recorded in 24 patients at baseline and 6 months. The mean reduction in shedding score reported by patients was 0.70 at 6 months.

At baseline, the mean systolic blood pressure (SBP) and diastolic blood pressure (DBP) were 126.27mmHg and 76.69mmHg respectively. At 6 months, the mean SBP was 121.22mmHg and DBP was 76.61mmHg. At 12 months, the mean SBP was 121.85mmHg and DBP was 77.46mmHg.

The most common adverse effect was mild hypertrichosis, recorded in 12.5% (8 females) of patients. Mild postural dizziness occurred in 7.8% (3 males, 2 females) of patients and mild peripheral oedema in 3.1% (2 females). There were no serious adverse effects recorded. Higher rates of adverse effects have been reported with low-dose oral minoxidil than we observed in this study[2,3].

In conclusion, sublingual minoxidil at a dose of 0.45mg daily was effective and had an acceptable safety profile in treating male and female androgenetic alopecia. The low number of patients and retrospective design of this study are limitations. Larger placebo-controlled clinical trials are required to support this conclusion.

Table 1: Mean reduction in Sinclair Stage

	3 months	**6 months**	**9 months**	**12 months**
All patients	0.33	0.53	0.81	1.07
Male	0.30	0.56	0.67	1.13
Female	0.36	0.50	0.92	1.0

Table 2: Mean change in Investigator Global Assessment (IGA) in Males

	3 months	6 months	9 months	12 months
Change in IGA	1.23	1.67	2.11	2.63

References

1. Sinclair RD. Female pattern hair loss: a pilot study investigating combination therapy with low-dose oral minoxidil and spironolactone. Int J Dermatol. 2018 Jan;57(1):104-109.

2. Jimenez-Cauhe J, Saceda-Corralo D, Rodrigues-Barata R, Hermosa-Gelbard A, Moreno-Arrones OM, Fernandez-Nieto D, et al. Effectiveness and safety of low-dose oral minoxidil in male androgenetic alopecia. J Am Acad Dermatol. 2019 Aug;81(2):648-9.

3. Lueangarun S, Panchaprateep R, Tempark T, Noppakun N. Efficacy and safety of oral minoxidil 5mg daily during 24-week treatment in male androgenetic alopecia. J Am Acad Dermatol. 2015 May;72(5, Supp1):AB113

4. Sinclair R, Jolley D, Mallari R, Magee J. The reliability of horizontally sectioned scalp biopsies in the diagnosis of chronic diffuse telogen hair loss in women. J Am Acad Dermatol. 2004 Aug;51(2):189-99.

5. Shin JW, Chung EH, Kim MB, Kim TO, Kim WI, Huh CH. Evaluation of long-term efficacy of finasteride in Korean men with androgenetic alopecia using the basic and specific classification system. J Dermatol. 2019 Feb;46(2):139-43.