Dermatology Practical & Conceptual

Is there a Rationale for the Use of Lymecycline for Frontal Fibrosing Alopecia?

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Frontal fibrosing alopecia (FFA) is a primary lymphocytic scarring alopecia considered a variant of lichen planopilaris. It affects mainly postmenopausal women, and its incidence has been increasing worldwide [1-3]. Its pathogenesis remains to be fully appreciated, but it seems related to an autoimmune reaction targeting follicular antigens [2,4]. Clinical manifestations include a recession of the frontotemporal hairline, loss of body hair and eyebrow, and skin changes such as facial papules and lichen planus pigmentosus. Pruritus, pain and burning happen in variable degrees [2,5-7].

There is no curative treatment for FFA, so therapy aims to control the symptoms and stop its progress [3]. Tetracycline and doxycycline are effective therapeutic options for some types of alopecia due to their anti-inflammatory properties at various levels of the inflammatory cascade [8,9]. Lymecycline has also been cited in a few FFA reports, however its wider recommendation requires further studies [10,11]. This article discusses the theoretical rationale for lymecycline as an alternative for FFA.

Lymecycline is the semisynthetic byproduct of the tetracycline ring combined with the amino acid L-lysine. This combination enhances drug absorption and serum levels, increases tissue penetration, and reduces the biodegradation rate [8,9]. It can thus be administered once a day with less phototoxicity or food interaction. The result is a better cost-effective profile compared to its counterparts [8]. Lymecycline is a short-acting tetracycline already well-documented for acne treatment [9]. All tetracyclines have antibacterial and anti-inflammatory properties by inhibiting the synthesis of cytokines and macrophage function [8]. Its most frequent side effects include nausea, diarrhea, and headache [8].

Considering that FFA is in great part related to an inflammatory attack of CD8 T lymphocytes at the bulge level, lymecycline may be able to control this inflammatory process, as illustrated in Figure 1 [2,10]. A study with patients affected by neutrophilic cicatricial alopecia suggested a dose of 300 mg per day for approximately 3 months, as it showed a better outcome compared to the use of 45 days [8]. The advantages of this regimen are superior gastrointestinal

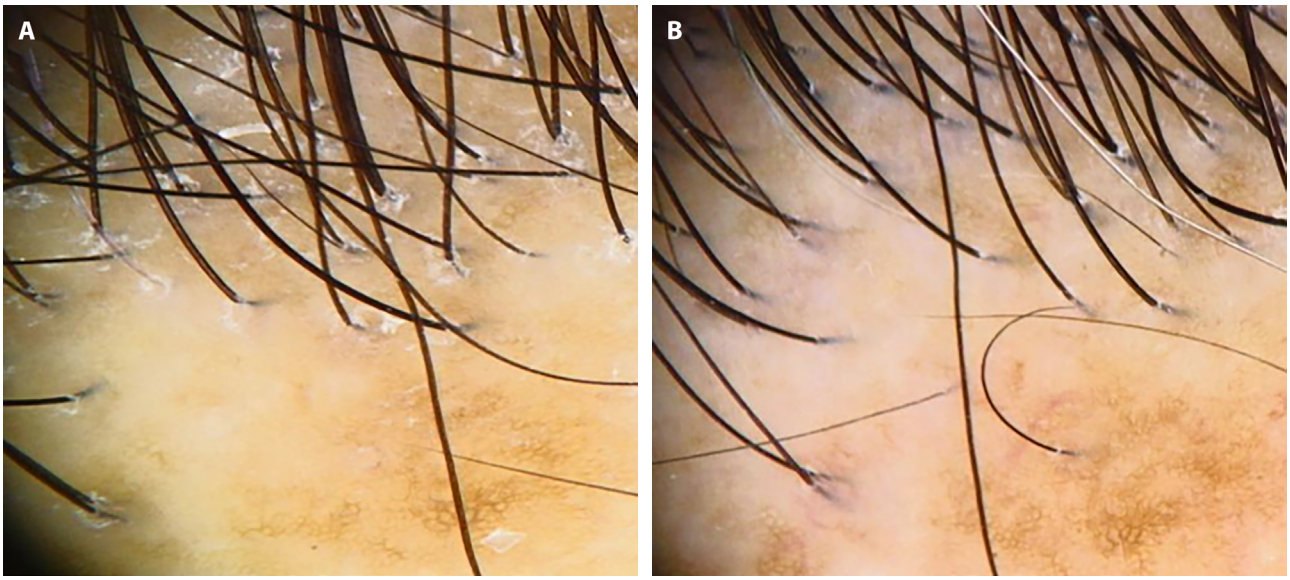

Figure 1. (A) Trichoscopy of a frontal fibrosing alopecia patient before treatment with oral lymecycline showing peripilar scaling. (B) Trichoscopy after treatment with oral lymecycline showing reduction of peripilar scaling.

tolerance compared to other tetracyclines and better patient adherence due to a single daily dose of the medication. Short-term maintenance treatment of 300 mg every other day may also be considered in refractory FFA, showing signs of active inflammation [8].

FFA is a distressful condition with a profound psychosocial impact. This article discussed the rationale behind the use of oral lymecycline as a therapeutic option for FFA. The biochemical profile of lymecycline seems to support its effectiveness, potentially expanding the armamentarium against FFA. While future randomized controlled trials may clarify the therapeutic impact of lymecycline, the discussion above suggests a promising role for this drug in this challenging disease.

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