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Topical Metronidazole After Discontinuation of Oral Metronidazole for Continuing Treatment of Lichen Planus

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Cutaneous Lichen Planus affects 0.2–1% of adults worldwide, primarily between 30–60, with a 3:2 female predominance. Despite an association with HCV, and a possible role for contact allergens, pathogenesis remains unclear.[1] Pruritis and unsightly plaques cause significant physiological and social distress that can persist for years. Those with uncontrolled pruritis risk infection from constant scratching. First line treatments involve topical and oral corticosteroids and/or ultraviolet lights. If these fail, second line oral therapies include immunosuppressants such as azathioprine, mycophenolate, cyclosporine and methotrexate, the antimalarial hydroxychloroquine, and the antibiotic metronidazole.

Metronidazole is commonly used for treatment of anaerobic bacteria and protozoa, typically at 500mg BID.[2] Side effects limit long term usage; these include peripheral neuropathy, encephalopathy, abdominal pain, and diarrhea.[3,4] Diarrhea due to clostridium difficile (C. diff) can be very severe, even deadly. In 2017 an estimated 223,900 cases resulted in 12,800 deaths.[5] Annual cost to the health system exceeds $6billion.[6] Because oral metronidazole carries these side effect risks, and lichen planus often requires prolonged treatment, a safer way to extend the cutaneous benefits of metronidazole treatment and prevent relapse could be of benefit in lichen planus. Topical metronidazole has long been used to treat rosacea,[7] and since it delivers metronidazole to the skin, it could also potentially prolong cutaneous response after discontinuation of oral therapy. A 1998 study supports this claim, presenting a statistically significant decrease in relapse rates among rosacea patients treated with oral metronidazole only versus oral followed by topical metronidazole.[7] Research into the effects of topical metronidazole in lichen planus treatment has not been published to date.

We report extension of metronidazole efficacy via use of topical metronidazole after discontinuation of oral metronidazole in an otherwise healthy 27-year-old woman with diffuse lichen planus on her forearms, flanks, back, thighs, and shins (Figure 1). Biopsies revealed lichen planus/lichen striatus, with the clinical presentation favoring the former. Phototherapy did not work with her schedule. A 3-month course of oral metronidazole 250mg TID resulted in 90% improvement. After 3 months, the patient chose to discontinue oral metronidazole due to risk of C difficile. At that point the question arose as to how to continue a seemingly successful treatment, so the patient was switched to topical metronidazole, which she used for 1 month. During that month, the lesions became completely flat, and have remained so since then (Figure 2). Residual hyperpigmentation is slowly fading without treatment. While further work is needed to establish causality, we and the family believe the topical metronidazole may have helped continue the resolution of the lichen planus.

FIGURE 1. Patient skin lesion before oral metronidazole use.

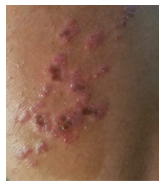
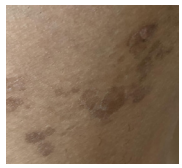


FIGURE 2. Patient skin lesions after 3 months of oral and 1 month of topical metronidazole treatment.



DISCLOSURES

None of the authors has any relevant conflicts to disclose.

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