SKIN

BRIEF ARTICLE

Use of Topical Minocycline for Treatment of Confluent and Reticulated Papillomatosis

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ABSTRACT

We describe a novel treatment for Confluent and Reticulated Papillomatosis (CRP). Two CRP patients treated with topical minocycline had complete resolution of plaques. These results may support an alternative treatment to oral antibiotics for this chronic and recurring disease.

INTRODUCTION

Confluent and reticulated papillomatosis (CRP) is a rare dermatosis initially described in 1927 that typically affects young adults and is characterized by scaly, hyperpigmented macules or papillomatous papules combining into patches typically involving the upper trunk and neck.[1–3] Successful treatment of CRP typically includes first-line treatment with oral minocycline. Herein, we report two cases of CRP successfully treated with topical minocycline.

CASE REPORT

A 38-year-old woman presented with an eruption of biopsy-proven CRP primarily affecting both upper extremities. Upon physical examination, greyish blue-brown scaly macules, some of which coalesced into patches that formed a netlike pattern, were observed on the distal anterior left upper arm and distal anterior right upper arm **(Figure 1A)**. The patient was prescribed 4% topical minocycline foam daily and 100 mg of oral minocycline twice daily. However, she experienced gastrointestinal upset and was unable to tolerate the course of oral antibiotics. She continued applying the foam once daily for a total of 30 days. At her two month follow-up visit, marked improvement of the macules was seen on the bilateral upper extremities following sole application of the minocycline foam **(Figure 1B)**. The patient denied any associated symptoms. No recurrence of CRP was noted at subsequent appointments. Due to the success of this treatment strategy, we applied this in our next case of CRP.

A 22-year-old male with no significant medical history presented with a concern of rash for one year. Physical examination showed brown macules overlying the abdomen and a diagnosis of biopsy-proven CRP was made **(Figure 2A)**. He started on 100 mg oral minocycline twice daily. After one month, improvement of CRP was noted, but not complete resolution. Thus, topical 4% topical minocycline foam was added. Marked improvement was seen after 3 months with

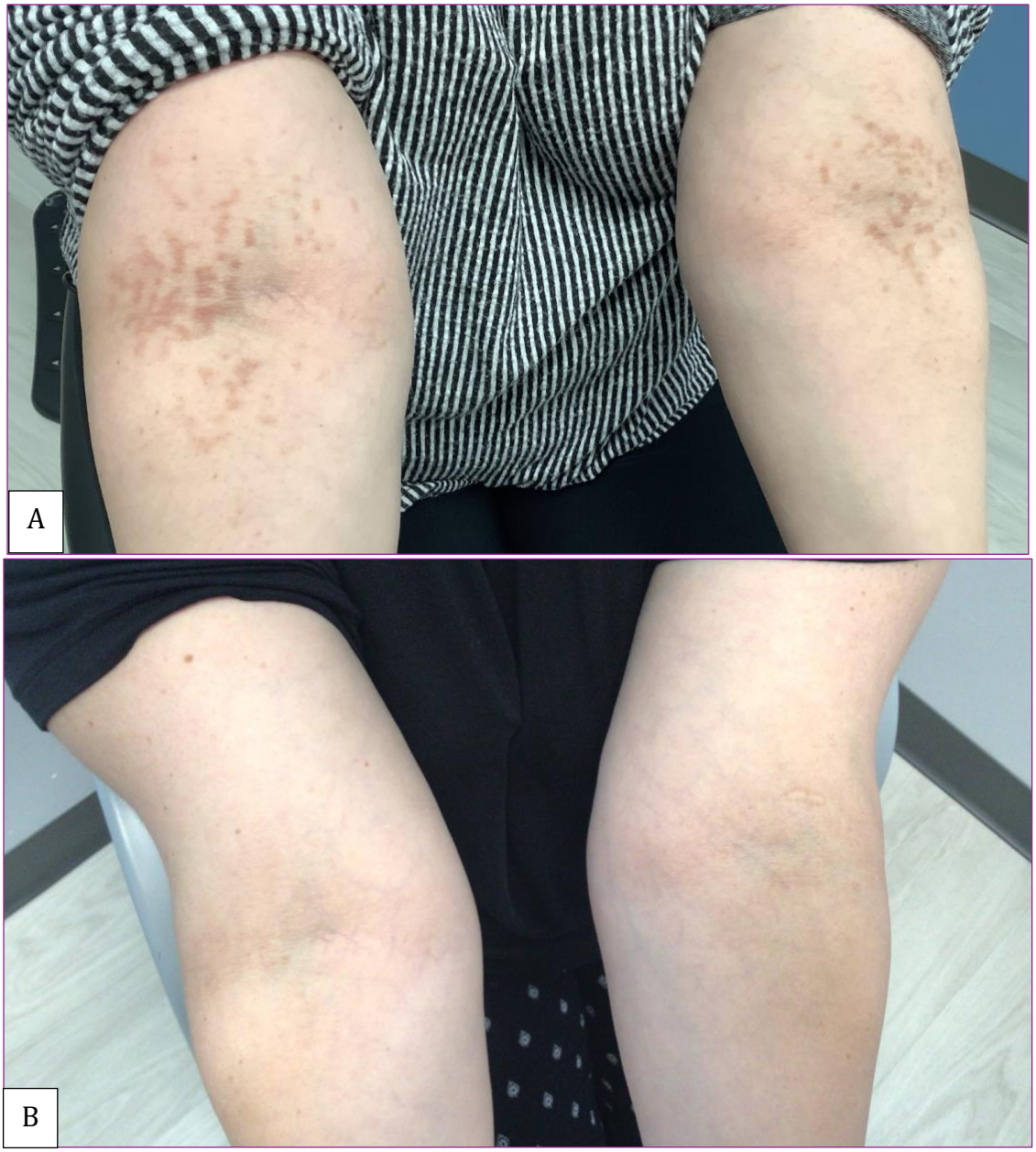

Figure 1. (A) Greyish blue-brown scaly macules coalescing into patches that form a netlike pattern and **(B)** two month follow up.

combined oral and topical minocycline therapy **(Figure 2B)**.

DISCUSSION

There are many reports of antibiotics, antifungals, and retinoids as options in the treatment of CRP, but the most widely accepted treatment to date is oral minocycline.[3,4] Minocycline is a semisynthetic tetracycline-derived antibiotic that blocks protein synthesis by attaching to the 30s ribosomal subunit of Gram-negative and Gram-positive bacteria. Minocycline has anti-inflammatory properties by preventing neutrophil migration, down-regulating cytokine production, activating superoxide

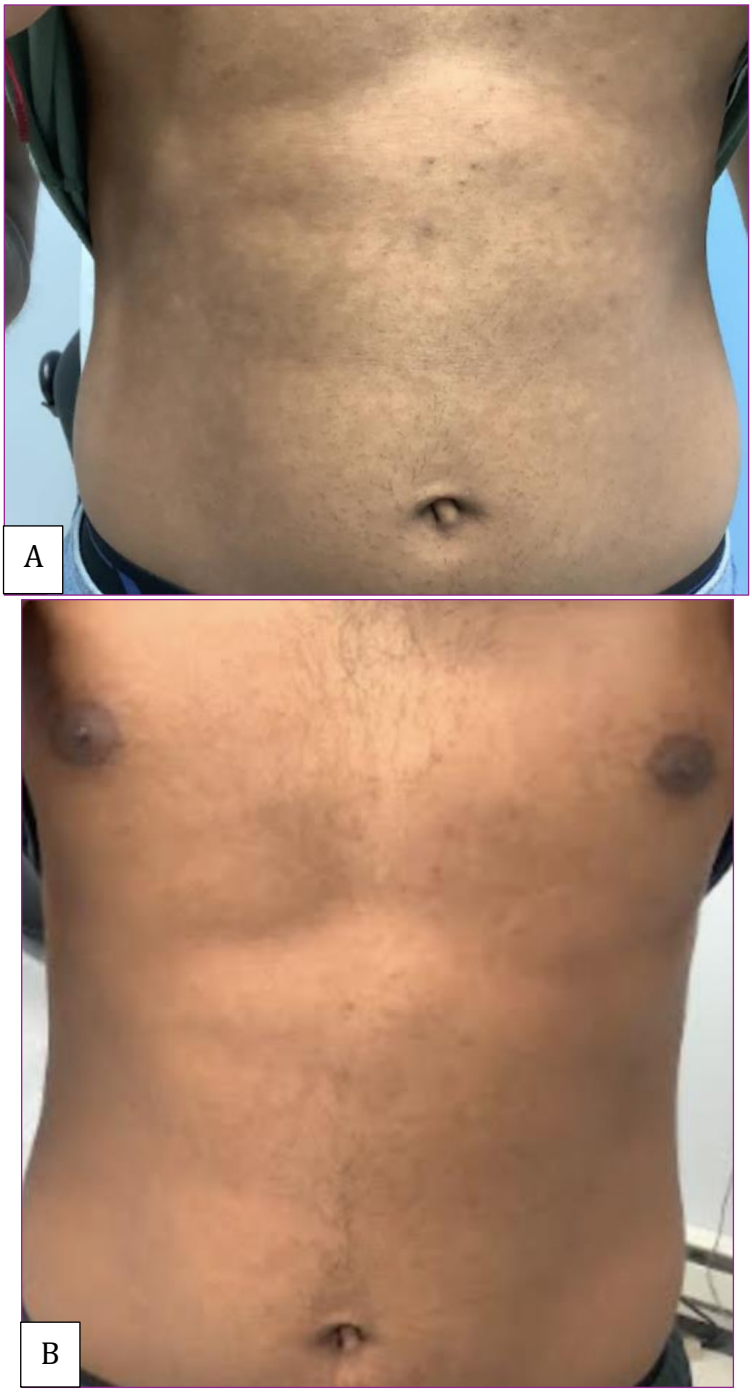

Figure 2. (A) Brown macules and **(B)** three-month follow up.

dismutase, and inhibiting phagocytosis.[5] Mufti, et al. identified oral tetracyclines, specifically, minocycline, as the most common monotherapy which achieved complete resolution in 59.7% of patients and partial resolution in 22.6% of patients.[4] Despite this success, systemic minocycline can have adverse effects on nervous, gastrointestinal, cutaneous systems, and more.[5] Combination therapies of oral minocycline and various topical agents can produce treatment-related adverse effects of fatigue, gastrointestinal symptoms, and cheilitis.[4] Due to the risks of side effects from

systemic minocycline use and the chronic nature of CRP, topical minocycline could be considered a better first-line treatment option. To our knowledge, there has been only one documented case of using topical minocycline in the treatment of CRP.[6] This alternative treatment offers the advantage of a targeted, local application for enhanced skin bioavailability and efficacy. Adverse side effects of topical minocycline include erythema, dryness, skin peeling, hyperpigmentation, and itching, which are milder than effects from oral minocycline.[5]

CONCLUSION

Although further research is needed to elucidate the effectiveness of topical minocycline as a treatment for CRP, this case supports the possibility of its use as an alternative to long-term oral antibiotics.

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