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Treatment of Confluent and Reticulated Papillomatosis Using Fixed-Dose Clindamycin phosphate 1.2%/Adapalene 0.15%/Benzoyl Peroxide 3.1% Gel

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ABSTRACT

Introduction: Confluent and reticulated papillomatosis (CARP) is a rare, non-systemic disease usually treated using oral antibiotics.
Case Presentation: We present a 15-year-old male with CARP for whom initial treatment with doxycycline, ketoconazole shampoo, and topical minocycline was ineffective. He was subsequently treated with a combination of fixed-dose triple-combination clindamycin phosphate 1.2% / adapalene 0.15% / benzoyl peroxide 3.1% (CAB) gel and a sodium hypochlorite-based body wash, resulting in complete clearance after 3 months.
Discussion: CARP is most often treated with oral or topical antibiotics. This case highlights the successful use of topical combination therapy with CAB, which is FDA approved for acne, plus a sodium hypochlorite-based body wash as a safe and effective alternative.
Conclusion: This case supports the potential role of CAB in CARP management and highlights the value of non-systemic options for treatment-resistant cases.

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INTRODUCTION

Confluent and reticulated papillomatosis (CARP) is a chronic dermatologic condition characterized by multiple hyperpigmented papules that converge to form plaques or patches and reticulate peripherally. The etiology of CARP remains unclear, but current evidence most strongly supports bacterial association and abnormal keratinization.[1] Oral antibiotics are the most frequently used first-line therapy for treating CARP.[2] The authors present a case of CARP treated successfully with topical fixed-dose triple-combination clindamycin phosphate 1.2% / adapalene 0.15% / benzoyl peroxide 3.1% (CAB) gel as a novel treatment.

Case Presentation

A 15-year-old Caucasian male presented with an itchy, discolored rash on his epigastric region for the past several months. Physical examination revealed confluent and reticulated brown patches on the epigastric lesions (Figure 1). A punch biopsy was performed with a clinical differential diagnosis that included tinea versicolor and CARP. Histopathology revealed hyperkeratosis, papillomatosis, and mild acanthosis, confirming the diagnosis of CARP. The patient demonstrated refractory

FIGURE 1. Initial presentation showing hyperpigmented, reticulated patches in the epigastric region consistent with CARP.

FIGURE 2. Persistent CARP lesions after a daily trial of ketoconazole 2% shampoo, minocycline foam 4%, and doxycycline 100 mg for 3 months.

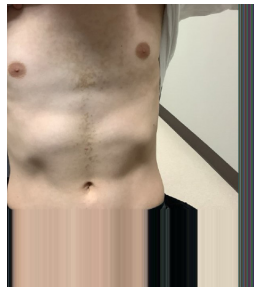

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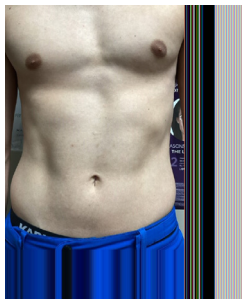
FIGURE 3. Three months after beginning daily CAB and sodium hypochlorite-based body wash the lesions, itch and pigmentation had cleared.



disease despite a 3-month course of daily ketoconazole 2% shampoo, topical minocycline 4% foam, and oral doxycycline 100 mg (Figure 2). He was subsequently started on daily CAB and CLn body wash (sodium hypochlorite-based cleanser) for 3 months. When the patient returned after 3 months, the lesions, itch, and pigmentation had cleared (Figure 3).

DISCUSSION

CARP is relatively rare and has a poorly understood etiology. It has been theorized to be caused by bacterial colonization, specifically *Dietzia papillomatosis*, which has been found on the skin of affected individuals.[3] CARP also has a strong link to defects in keratinization. Other causes have been implicated but are less likely to be a primary driver of the disease. They include a reaction to UV light, endocrine abnormalities, *Malassezia* spp., and cutaneous amyloidosis.[3] Plaques or patches typically appear on the upper trunk and neck of affected individuals. Notably, CARP and acanthosis nigricans can appear similar on clinical examination, but they can be reliably differentiated through histopathologic analysis.[4]

Multiple therapeutic approaches have been explored for the treatment of CARP. Most commonly used are oral tetracyclines, particularly minocycline and doxycycline. One study assessing the effectiveness of oral minocycline and doxycycline for CARP reported that 60% of patients achieved complete clearance and 23% achieved partial clearance with a mean resolution period of 51.8 days.2 Other oral antibiotics, such as azithromycin and amoxicillin, have also been used.[2] Oral antibiotics are thought to be effective due to their dual anti-inflammatory and antimicrobial properties. Topical antibiotics have also been used to successfully treat CARP.[1]

CAB is a triple-combination topical gel currently indicated for the treatment of patients with acne vulgaris. It consists of 1.2% clindamycin phosphate, 0.15% adapalene, and 3.1% benzoyl peroxide.[5] The anti-infective properties of clindamycin phosphate, benzoyl peroxide, and hypochlorous acid may work synergistically to eliminate the bacterial component of the pathology, while adapalene and benzoyl peroxide help normalize keratinocyte turnover. Together, these may contribute to the resolution of pigmentary changes characteristic of CARP.

In this case study, the patient was initially prescribed oral doxycycline, topical minocycline, and topical ketoconazole concurrently, which did not clear the disease. After 3 months of using CAB and CLn body wash, the lesion was completely resolved. To our knowledge, this is the first case reported in the literature of a patient with CARP who was successfully treated with CAB and sodium hypochlorite-based body wash.

Topical clindamycin is an antibiotic that is indicated for treating acne vulgaris. It works by inhibiting protein synthesis by binding to 50S ribosomal subunits, thereby preventing the formation of peptide bonds.[6] Benzoyl peroxide is commonly utilized to prevent and treat acne by promoting bacterial protein degradation by generating free radicals; it also breaks down keratin and promotes dead skin cell shedding.[6] Its anti-infective plus keratolytic properties may have a role in resolving CARP. Sodium hypochlorite-based body wash, such as CLn body wash, provides additional antimicrobial action.[7] Adapalene modulates keratinocyte differentiation and reduces inflammation, contributing to the resolution of lesions and pruritus.[8]

Unlike oral antibiotics, which carry a risk of systemic side effects, CAB has no systemic side effects.[5] This can be advantageous for patients for whom oral antibiotics are contraindicated or poorly tolerated.

CONCLUSION

This case highlights the successful resolution of confluent and reticulated papillomatosis using topical clindamycin phosphate 1.2% / adapalene 0.15% / benzoyl peroxide 3.1% (CAB) gel in combination with a sodium hypochlorite–based body wash after failure of standard therapies. To our knowledge, this represents the first reported use of CAB gel for the treatment of CARP. This outcome supports the hypothesis that targeting both bacterial colonization and abnormal keratinization can be effective in refractory disease. CAB gel may offer a well-tolerated, non-systemic alternative for patients who do not respond to or cannot tolerate oral antibiotics. Further prospective studies are warranted to better define its role, durability of response, and optimal treatment duration in CARP.

DISCLOSURES

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Consent Statement: The authors obtained written consent from patients for their photographs and medical information to be published in print and online, and with the understanding that this information may be publicly available.

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