

Confluent and reticulate papillomatosis: response to topical terbinafine and oral fluconazole; a case report

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Confluent and Reticulate Papillomatosis (CRP) is a rare disease with poorly recognized etiology. Various agents such as antibacterial, topical/systemic antifungal and topical/oral retinoids have been used as treatment. Here, we report a 15-year-old female with CRP in whom yeasts of *Malassezia* were found in the PAS stain of the skin lesions. Topical terbinafine hydrochloride 1% spray and oral fluconazole disappeared the lesions, supporting the hypothesis that CRP maybe a reactive dermatosis to *Malassezia*.

Keywords: confluent and reticulate papillomatosis, fluconazole, terbinafine, treatment

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INTRODUCTION

Confluent and Reticulate Papillomatosis (CRP) is a rare disease which is characterized by erythematous papules between the breasts and interscapular area that gradually become hyperpigmented and coalesce with a peripherally reticular and centrally confluent pattern. Histologically, hyperkeratosis, acanthosis and papillomatosis are present. CRP was first described in 1927 by Gougerot and Carteaud ¹. In spite of significant advances in its diagnosis, its etiology remains poorly understood and consequently, there is no consensus about its treatment. Because of the rarity of CRP, our knowledge is often based on case reports. Here,

we describe clinical presentation, histopathological findings and response to treatment of a patient suffering from CRP with the purpose of better conception of the pathogenesis and therefore treatment of this rare disorder.

CASE REPORT

A 15-year-old female was referred to the dermatology outpatient clinic of Razi Hospital, Tehran, Iran, in February 2011. She presented with a 3-year history of a mild pruritic, brownish, sessile, velvety, hyperkeratotic, centrally confluent and peripherally reticular patterned papules over the chest, neck, upper back and proximal

part of the upper extremities (Figure 1). Her past medical history was unremarkable. She was a little overweight. Skin lesional biopsy showed hyperkeratosis, parakeratosis, papillomatosis and mild acanthosis with a heavy infiltration of yeasts in the stratum corneum. Dermis showed a subtle perivascular lymphocytic infiltration (Figure 2). Periodic acid shift (PAS) stain of the skin lesion specimen demonstrated yeasts of *Malassezia* in the stratum corneum (Figure 3). Under Wood's light, a yellow fluorescence was emitted from the involved area. Laboratory evaluation was normal without any endocrine imbalance.

Considering clinical and histological findings in our patient, it was highly probable that she had CRP. Because of the heavy infiltration of yeasts and according to the results of some previous studies,

which showed the effectiveness of antifungal agents in the treatment of CRP³, we treated our patient with topical terbinafine hydrochloride spray (Lamisil 1%) twice daily for 2 weeks and oral fluconazole 100 mg/day for 10 days. Surprisingly, at the end of the second week, she had an excellent response with noticeable flattening and fading of the lesions without recurrence after 3 months (Figure 4).

DISCUSSION

Despite detailed clinical history, the etiology of CRP is under debate. Based on the prior studies, there are several supposed etiologic hypotheses such as keratinization disorder, reaction to *Malassezia furfur*, bacterial agents, reaction to UV light, amyloidosis process and familial factors. Based on



Figure 1. Confluent and reticulated brown and velvety papules over the neck and upper back, prior to treatment

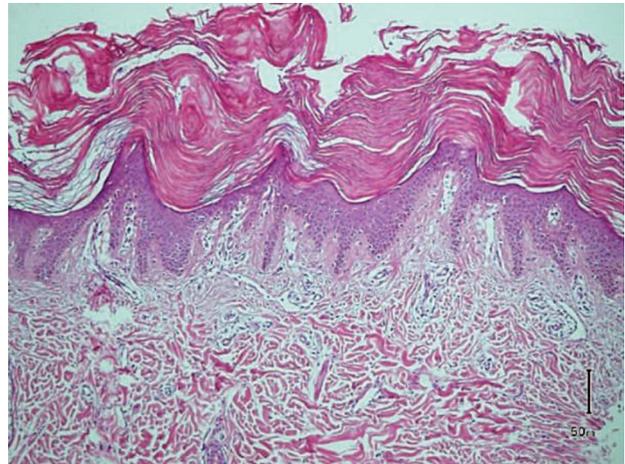


Figure 2. Photomicrographs of skin biopsy. Note the hyperkeratosis, parakeratosis, papillomatosis, mild acanthosis and subtle perivascular lymphocytic infiltration [H&E, $\times 10$]

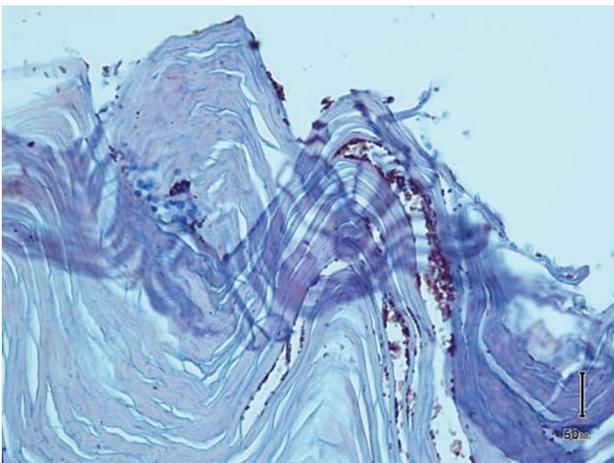


Figure 3. Yeasts of *Malassezia* in the stratum corneum [P.A.S stain, $\times 40$]



Figure 4. Fading of papules with topical lamisil spray and oral fluconazole after 2 weeks

the presumed etiologies, a variety of treatments has been tried with variable outcomes, including antibacterial agents like minocycline, oral fusidic acid, clarithromycin, erythromycin, azithromycin and tetracycline, topical/systemic antifungal agents and topical/oral retinoids¹⁻⁶.

Despite these noted presumptions, there is no consensus about its etiology and thus the treatment is empirical with an unpredictable outcome.

Two main differential diagnoses of CRP include:

- Acanthosis nigricans which can be differentiated by flexural distribution, associated endocrinopathies, lack of a reticulated pattern and older age of onset than CRP.
- Tinea versicolor with the same distribution of lesions which can be ruled out by KOH examination or biopsy revealing hyphae, yellow fluorescence emission under Wood's light and its successful treatment with topical antifungal agents.

Other disorders such as Dowling-Degos, epidermal nevus, verruca plana, seborrheic dermatitis, Darier disease, macular and lichen amyloidosis should be dismissed as well.

In 2006, Davis et al, suggested a set of diagnostic criteria for CRP¹:

- Reticulated and papillomatous patches and macules,
- Involvement of the upper trunk and neck,
- Negative fungal staining,
- No response to antifungal agents,
- Excellent response to minocycline.

Clinically and histopathologically, our patient was typical for CRP, similar to the original report of Gougerot and Carteaud in 1927 and other later reports. However, our patient showed good response to antifungal agents and a positive direct correlation between the density of *Malassezia* and the

response to antifungal drugs, which are in contrast to some other reports^{1,6}. Discordance between the results of fungal staining and response to antifungal agents in our patient and the mentioned criteria of Davis et al¹ did not support the diagnosis of CRP in our patient but the characteristic clinical picture and histopathological study were in favor. This report again emphasized the ambiguities in the etiology of CRP which should be elucidated.

In conclusion, the prominent points of our report were the heavy infiltration of yeasts in the lesional biopsy of CRP and significant improvement following antifungal therapy which may pose an etiologic role for *Malassezia*. Further studies are needed to determine the exact etiology and therefore response consistency of employed treatments.

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