



# Successful treatment of confluent and reticulated papillomatosis with tetracycline and mupirocin

*Konfluent ve retiküle papillomatosisin tetrasiklin ve mupirosin ile başarılı tedavisi*

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## Abstract

Confluent and reticulated papillomatosis characterized by hyperkeratotic-pigmented papules is a rare dermatosis, which tends to settle in seborrheic areas. Some cutaneous disorders share the same features. Herein, we report a 51-year-old man with confluent and reticulated papillomatosis who was followed up as tinea versicolor which was unresponsive to treatment for six months. Confluent and reticulated papillomatosis should be kept in mind in patients with localized reticular pigmentation involving the upper trunk and neck.

**Keywords:** Confluent and reticulated papillomatosis, tinea versicolor, tetracycline, mupirocin

## Öz

Hiperkeratotik pigmentli papüller ile karakterize konfluent ve retiküle papillomatosis, seboreik bölgelerde yerleşme eğiliminde olan nadir bir hastalıktır. Bazı deri hastalıkları onunla bazı klinik özelliklerini paylaşır. Bu yazıda, altı aylık tedaviye yanıtız tinea versikolor olarak takip edilen konfluent retiküle papillomatosisli 51 yaşında bir erkek hasta sunuldu. Konfluent ve retiküle papillomatosis vücudun üst kısmında ve boyunda lokalize retiküler pigmentasyon olan hastalarda akılda tutulmalıdır.

**Anahtar Kelimeler:** Konfluent retiküle papillomatosis, tinea versikolor, tetrasiklin, mupirosin

## Introduction

Confluent and reticulated papillomatosis (CRP) characterized by aberrant keratinization and hyperkeratotic-pigmented papules and peripheral reticulation involving seborrheic areas is a rare dermatosis. Consensus on the etiology and triggers of the disease has not been provided yet. Histopathological findings are nonspecific, and it can be diagnosed according to the clinical findings. Thus, some cutaneous disorders can share some features of CRP, and some patients may be exposed to ineffective and unnecessary treatment<sup>1</sup>. Herein, we present the case of a patient with CRP followed up erroneously as tinea versicolor for about six months and treated successfully with tetracycline and mupirocin.

## Case Report

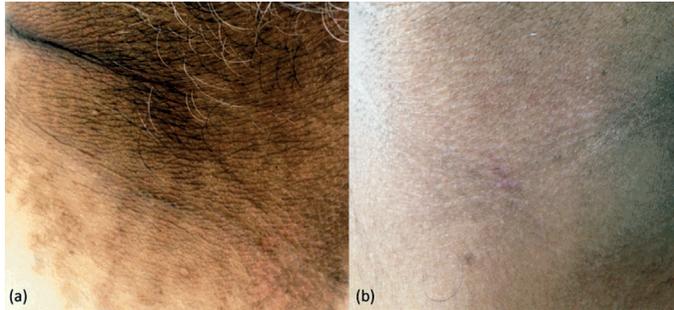
A 51-year-old male patient presented with the complaint of rash in the neck region, over a period of six-months. Physical examination revealed reticulated, hyperpigmented, and slightly scaly plaques in the neck region (Figure 1). His medical history revealed frequent use of topical and oral antifungal agents for the treatment of tinea versicolor. Potassium hydroxide preparation of the skin lesion was negative. Histopathological examination of the punch biopsy specimens revealed papillomatosis and acanthosis in the epidermis with mild hyperkeratosis in the stratum corneum, a slightly thickened stratum granulosum, and melanosis in the basal layer (Figure 2). The patient's complaints resolved completely with oral tetracycline 500 mg twice a day and

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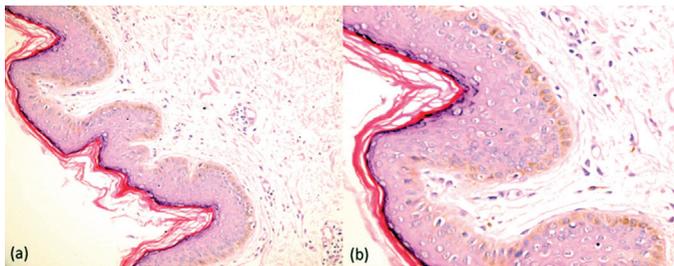
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topical mupirocin once a day at the end of two weeks of treatment (Figure 1).



**Figure 1.** a) Images of skin lesion before and b) after treatment



**Figure 2.** a) Papillomatosis and acanthosis in epidermis with mild hyperkeratosis in stratum corneum, a slightly thickened stratum granulosum, melanosis in the basal layer (hematoxylin and eosin x200). b) Melanosis in the basal layer of epidermis with papillomatosis (hematoxylin and eosin x400)

## Discussion

Disordered keratinization, altered keratinocyte differentiation and brown hyperpigmentation due to increased melanosomes in the epidermis are some histopathological features of CRP. It is a white and male predominant disease. Age of onset of CRP ranges between 3 and 55-year<sup>1</sup>. Cases from Turkey are summarized in Table 1. Our patient was a 51-year-old male patient, and consistent with common features of CRP such as age, race, localization and general aspects of the lesions. Seboreic areas such as the nape, axillae, upper chest and back, forehead and the pubic region are the typical involvement areas of the CRP<sup>1</sup>. In our case, the involvement area was the neck region and the clinical features such as reticulated, hyperpigmented, and slightly scaly plaques were compatible with that of CRP.

Insulin resistance, keratinization disorders, developing an abnormal host response against bacterial or fungal agents, such as *Dietzia* papillomatosis (type strain N 1280T) and *Malassezia furfur*, amyloid deposition, and a loss-of-function mutation in keratin 16 and genetic disorders have been suggested for the etiology and pathogenesis. Melanogenesis and transient epidermal hyperplasia can be induced by ultraviolet radiation. It may be also a variant of cutaneous amyloidosis<sup>1-3</sup>. *Malassezia* colonization can be detected, and improved with antifungal treatment. However, there are many CRP cases of undetected *Malassezia* or unresponsive to antifungal therapy<sup>4</sup>. We did not find any etiology related to CRP. There was no evidence of fungal infection detected by potassium hydroxide and Wood's lamp examinations. In addition, we could not get response to antifungal therapy. CRP was

**Table 1. Confluent and reticulated papillomatosis: Cases from Turkey\***

Authors	Year	Gender	Age	Localization	Successful treatment
Açıkgöz et al. <sup>8</sup>	2014	Male	19	Chest	Doxycycline, topical tretinoin and calcipotriol
		Male	16	Chest	
Erkek et al. <sup>9</sup>	2009	Female	48	Trunk	Isotretinoin
Ozdemir et al. <sup>10</sup>	2009	Female	21	Nose, mouth, intermammary region	Ethinylestradiol, drospirenone
Gönül et al. <sup>5</sup>	2008	Female	19	Abdomen	Mupirocin
Atasoy et al. <sup>11</sup>	2006	Female	15	Knees, elbow	Azithromycin
Atasoy et al. <sup>6</sup>	2004	Male	21	Interscapular area	Azithromycin
Basak and Seçkin <sup>12</sup>	2001	Male	21	Trunk	Minocycline
Gülec et al. <sup>13</sup>	1999	Female	34	Trunk	Calcipotriol
Kürkçüoğlu and Celebi <sup>14</sup>	1995	Female	25	Trunk	Calcipotriol

\*Pubmed search results

diagnosed by clinical and histopathological findings. Histopathological examination reveals mild hyperkeratosis, papillomatosis, focal acanthosis and superficial perivascular lymphocytic infiltration.

Although some treatment options such as salicylic acid, urea, topical and systemic retinoid, topical calcipotriol, tacrolimus, tazarotene, fluorouracil, antifungals, phototherapy and dermabrasion can be used, some studies of CRP performed in recent years have focused on the role of bacteria in the pathogenesis<sup>1,5,7</sup>. Good response to antibiotics such as minocycline and azithromycin in clinical practice reinforces this theory. Side effects of azithromycin are fewer than minocycline. In addition, macrolide and tetracycline groups have both antimicrobial and anti-inflammatory effects via inhibition of metalloproteinase, hydrolase, phospholipase A2, tumor necrosis factor alpha, interleukin (IL)-1 $\beta$ , and IL-6 as well as suppression of IL-8 and neutrophil oxidative burst<sup>1,3</sup>. Selenium sulphide can be effective due to keratolytic effect. Topical treatments such as tacrolimus are appropriate for relapsed patients with limited involvement. Systemic retinoids can be used in non-responders<sup>1</sup>. Therefore, antibiotics with anti-inflammatory effect are effective and a first-line treatment option in CRP. Thus, we selected tetracycline treatment with antimicrobial support of mupirocin which reduces epidermal proliferation by blocking of protein and DNA synthesis<sup>5</sup>. Complete remission was obtained in our patient after a 2-week oral tetracycline and topical mupirocin treatment.

Recurrence rates have been reported in the range of 13.8-15.4%. In these patients, repeating of treatment with effective antibiotics in responders and administering other treatment choices in non-responders can be performed<sup>1</sup>. Our patient is doing well in the follow-up period of 36 months.

CRP is clinically similar to tinea versicolor and can be easily confused

with some dermatological diseases. CRP should be kept in mind in patients with localized reticular pigmentation in the upper trunk and nape. Thus, unnecessary and ineffective treatments and time loss for patients can be prevented. Due to the side effects of some antibiotics, tetracycline and macrolide groups can be considered as a first-line treatment option.

#### Ethics

**Informed Consent:** Informed consent was taken from patient.

**Peer-review:** Externally peer-reviewed.

#### Authorship Contributions

Surgical and Medical Practices: H.A., H.Ö.K., M.G., Concept: H.A., H.Ö.K., M.G., Design: H.A., M.G., Data Collection or Processing: H.A., H.Ö.K., F.A.K., Analysis or Interpretation: H.A., M.G., Literature Search: H.A., M.G., Writing: H.A., H.Ö.K., M.G., F.A.K.

**Conflict of Interest:** The authors declare no conflict of interest.

**Financial Support:** The authors have no financial support.

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